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RP 51

**CATALOG OF NAVAL OCEANOGRAPHIC OFFICE
UNCLASSIFIED PUBLICATIONS**

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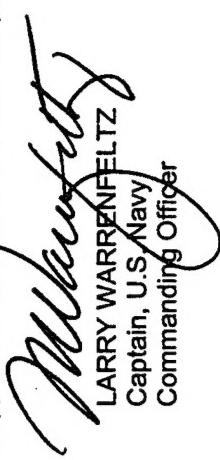
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Commander
Naval Meteorology and
Oceanography Command

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FOREWORD

This catalog lists unclassified official Naval Oceanographic Office publications available to DOD, other government agencies, and the public. These publications were prepared to support the mission of the U.S. Navy.



LARRY WARREN FELTZ
Captain, U.S. Navy
Commanding Officer

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INTRODUCTION

The Naval Oceanographic Office (NAVOCEANO) publishes environmental information for Fleet use and for the use of those agencies (government and private) authorized access. This document is a catalog of unclassified NAVOCEANO publications issued through July 1999.

Publications are listed by major categories: Basic Data Reports (BDR), Reference Publications (RP), Special Publications (SP), Technical Notes (TN), and Technical Reports (TR). The publications are arranged in numerical order according to report number.

While some of the documents are available to the general public, others have a limited distribution. See the ordering procedures on page iv for further information on availability.

ORDERING PROCEDURES

The availability of publications listed in this catalog is signified by a "U" (for unlimited distribution) or an "L" (for limited distribution) in the distribution column. Publications may be ordered as follows:

Ships and activities referenced in fleet allowance instructions should order publications directly from the Naval Oceanographic Office (NAVOCEANO) at the address below. Other Department of Defense activities, government agencies, and government contractors may order publications by letter, message, or requisition form signed by a cognizant officer from the following agencies:

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NOTE: The general public may order publications that have an AD number and unlimited distribution from the National Technical Information Service. If an AD number is not listed for a publication, the general public may order unlimited distribution publications from NAVOCEANO.

For additional information about the listings in this catalog, direct inquiries to NAVOCEANO at DSN 485-4017 or commercial (228) 688-4017.

RP 51 CATALOG OF NAVAL OCEANOGRAPHIC OFFICE UNCLASSIFIED PUBLICATIONS

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
BDR 01-87	AXBT Measurements of Temperature Conditions in the Northeast Atlantic Ocean, February - March 1983 and January 1984	1987	70 p.	Kerling, Jeffrey L.	L	B120 348L	AXBT temperature profiles were acquired during an extensive survey in the NE Atlantic Ocean. This report presents an overview of the basic data, along with preliminary analyses in the form of contour charts.
BDR 01-89	Biological and Chemical Data from the Northeast Pacific, June - July 1987, June - July 1988, and October - November 1988	1989	277 p.		L		This report contains biological and chemical data collected during USNS WILKES cruise 330487 and USNS BENT cruises 260488 and 260189. Descriptions of the instrumentation used and the data processing techniques are included.
BDR 01-90	Ocean Temperature Measurements in the Jacksonville Operating Area, October 1985, February-March 1986, May - June 1986	1990	81 p.	Kerling, Jeffrey L.	L		Extensive AXBT surveys were conducted over the Gulf Stream region near Jacksonville, FL during October 1985, February-March 1986, and May-June 1986. This report presents vertical temperature sections and horizontal charts of temperature, sonic layer depth, and topography of mid-thermocline isotherms during fall, winter, and spring seasons.
BDR 01-92	Biological and Chemical Data from the Northeast Pacific, November - December 1990	1992	471 p.	Bird, Jerry L. Blankton, Charles Geiger, Mark Kelly, Eugene B. Simm, Patricia A.	L	B165-365L	This Basic Data Report contains biological and chemical data collected during USNS BENT Cruises 260291 and 260391. Descriptions of the instrumentation used and the data processing techniques are included. Data are presented in summary form.
BDR 01-95	Biological and Chemical Data from the Arabian Gulf and Gulf of Oman June - July 1993	1995	330 p.	Simm, Patricia A. Geiger, Mark L. Bird, Jerry L.	L	B204-252	This Basic Data Report contains biological and chemical data collected during USNS SILAS BENT Cruises 260893 and 260003. Descriptions of the instrumentation used and the data processing techniques are included. The data are presented in summary form.
BDR 02-87	Biological and Chemical Data from the Northwest Atlantic, May - July 1986	1987	207 p.		L		This report contains biological and chemical data collected during USNS KANE cruises 270486 and 270586. Descriptions of the instrumentation used and the data processing techniques are included.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DISTR.	AD NO.	DESCRIPTION
BDR 04-88	AXBT Measurements of Temperature Conditions in the Western North Atlantic Ocean, October 1985, March 1986, May - June 1986	1988	72 p.	Kerling, Jeffrey L. Murphy, Marlee K.	L		Extensive AXBT surveys were conducted in the western North Atlantic Ocean during October 1985, March 1986, and May-June 1986. This report presents horizontal contour charts of temperature, sonic layer depth, and topography of mid-thermocline isotherms during fall, winter, and spring seasons.
BDR 04-91	AXBT Measurements in the Northeastern Pacific Ocean, November 1990 - April 1991	1991	201 p.	Kerling, Jeffrey	L	B163-430L	AXBT temperature surveys were conducted in the central Gulf of Alaska and in the coastal region near the Strait of Juan de Fuca from November 1990 through April 1991. This report presents horizontal and vertical temperature contour charts of these areas, along with waterfall display temperature profiles. Contour charts of watermass acoustical parameters, such as sonic layer depth and deep and shallow sound channel conditions are also presented.
BDR 05-94	Biological and Chemical Data from the Northeast Pacific April - May 1992	1994	236 p.	Bird, Jerry L. Geiger, Mark L. Kelly, Eugene Simm, Patricia A.	L	B187-949L	This Basic Data Report contains biological and chemical data collected during USNS WILKES Cruise 330592. Descriptions of the instrumentation used and the data processing techniques are included. The data are presented in summary form.
BDR 09-93	Biological and Chemical Data from the Northeast Pacific, July - August 1991	1993	267 p.	Geiger, Mark L. Simm, Patricia A. Rogers, Randolph Bird, Jerry L.	L	B175-147L	This Basic Data Report contains biological and chemical data collected during USNS SILAS BENT Cruises 260891 and 261091. Descriptions of the instrumentation used and the data processing techniques are included. The data are presented in summary form.
BDR 7110-1-85	Biological and Chemical Data from the Northeast Pacific, August - October 1982	1985	97 p.		L		This report contains biological and chemical data collected during USNS SILAS BENT cruise 260582. Descriptions of the instrumentation used and the data processing techniques are included. The data are presented in summary form except for plankton samples, for which complete analyses are included.
BDR 7110-1-86	Biological and Chemical Data from the Northeast Pacific, May - June 1983	1985	60 p.		L		This report contains biological and chemical data collected during USNS SILAS BENT cruise 260383.
BDR 7110-1-87	Biological and Chemical Data from the Arabian Sea, July 1985 - August 1985	1987	24 p.		L		This report contains biological and chemical data collected during USNS WILKES cruise 330485, phases I and II. Descriptions of the instrumentation used and the data processing techniques are included.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
BDR 7110-2-86	Biological and Chemical Data from the Northeast Atlantic, October 1984 - May 1985	1986	92 p.		L		This report contains biological and chemical data collected during USNS KANE cruises 270185, 270285, and 270485.
BDR 7110-2-87	Biological Data from North Pacific Transits, November 1982 - December 1982 and November 1983 - December 1983	1987	14 p.		L		Contains biological data collected during USNS SILAS BENT cruises 260183 and 260184. Descriptions of the instrumentation used and the data processing techniques are included. The data are presented in summary form except for plankton samples, for which complete analyses are included.
BDR 7210-1-85	CTD Profiles in the Northeast Atlantic, October - November 1984	1985	186 p.	Jugan, Michael J.	L		During October and November 1984, a two-phase physical oceanographic survey in the Northeast Atlantic Ocean was conducted during USNS KANE cruise 270185. This report is a presentation of the CTD data in final processed form.
BDR 7210-1-86	Current Measurements in the Strait of Sicily, December 1976 - March 1977	1986	52 p.	Smith, Betty R.	L		Data from five arrays of current meters in the Strait of Sicily are presented. The arrays were deployed from the USNS KANE on 17 December 1976, during cruise 343707, and were recovered on 17 March 1977.
BDR 7210-1-87	XBT Profiles from the Northeast Atlantic, April - May 1985	1987	83 p.	Klonowski, John E. Wahl, Robert J.	L		During April-May of 1985, a two-phase survey was conducted in the Northeast Atlantic Ocean during USNS KANE cruise 270485. This report presents the XBT data from Phase II of this survey in a final processed form.
BDR 7210-2-85	XBT Profiles in the Northeast Atlantic, October - November 1984	1985	116 p.	Wahl, Robert J.	L		During October-November of 1984, a two-phase survey was conducted in the Northeast Atlantic Ocean during USNS KANE cruise 270185. This report presents the XBT data from this survey in a final processed form.
BDR 7210-2-86	CTD Profiles in the Northeast Atlantic, April - May 1985	1986	228 p.	Clifford, Melody A. Jugan, Michael J.	L		During April and May 1985, a two-phase physical oceanographic survey in the Northeast Atlantic Ocean was conducted during USNS KANE cruise 270485. This report is a presentation of the CTD data in final processed form.
BDR 7210-5-86	XBT Profiles from the Northeast Atlantic, April 1985	1987	85 p.	Klonowski, John E. Wahl, Robert J.	L		During April-May 1985, a two-phase survey was conducted in the Northeast Atlantic Ocean during USNS KANE cruise 270485. This report presents the XBT data from Phase I of the survey in a final processed form.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
BDR 7210-6-86	CTD Profiles from the Northwest Indian Ocean, July - August 1985	1987	111 p.	Klonowski, John E. Wahl, Robert J.	L		During July and August 1985, a two-phase physical oceanographic survey in the Northwest Indian Ocean was conducted during USNS WILKES cruise 330485. This report is a presentation of the CTD data in final processed form.
BDR 7210-7-86	Air-Sea Interaction Drifting (ASID) Buoys, October 1985 - January 1986	1986	26 p.	Hester, B. S.	L		This is a report of meteorological and subsurface ocean temperature data collected from three Air-Sea Interaction Drifting (ASID) buoys which were deployed in the North Atlantic Ocean near Bermuda from October 1985 through January 1986.
BDR 7210-8-86	XBT Profiles from the Northwest Indian Ocean, July - August 1985	1987	106 p.	Klonowski, John E. Wahl, Robert J.	L		During July-August 1985, a two-phase survey was conducted in the Northwest Indian Ocean during USNS WILKES cruise 330485. This report presents the XBT data of this survey in a final processed form.
BDR 7230-1-84	AXBT Measurements of Ocean Temperature Conditions in the Northeast Pacific, February 1982	1984	31 p.	Kerling, Jeffrey L.	L		During February 1982 the RP-3A Project BIRDSEYE aircraft conducted AXBT temperature measurements in the Northeast Pacific Ocean. This report presents horizontal contour maps and vertical sections of temperature and AXBT profiles along selected flight lines. Preliminary analyses of these data products relating to water mass temperature structure during winter are discussed.
BDR 7230-1-85	AXBT Measurements of Ocean Temperature Conditions in the Northeast Atlantic, May 1984	1985	42 p.	Kerling, Jeffrey L.	L		During May 1984, the RP-3A Project OUTPOST SEASCAN aircraft conducted AXBT temperature measurements in the Northeast Atlantic Ocean. This report presents horizontal contour charts and vertical sections of temperature and AXBT profiles along selected flight lines. Preliminary analyses of these data products relating to regional water-mass temperature structure during the spring season are discussed.
BDR 7230-1-86	AXBT Measurements of Ocean Temperature Conditions in the Northeast Atlantic, April - May 1985	1986	50 p.	Kerling, Jeffrey L.	L	B115 368L	During Apr-May 1985, the RP-3A Project BIRDSEYE aircraft conducted AXBT temperature measurements in the NE Atlantic Ocean. This report presents horizontal contour charts and vertical sections of temperature and AXBT profiles along selected flight lines.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
BDR 7230-2-85	AXBT Measurements of Ocean Temperature Conditions in the Northeast Pacific, January 1983	1985	44 p.	Kerling, Jeffrey L.	L		During January 1983, the RP-3A Project BIRDSEYE aircraft conducted AXBT temperature measurements in the Northeast Pacific Ocean. This report presents horizontal contour charts and vertical sections of temperature and AXBT profiles along selected flight lines. Preliminary analyses of these data products relating to regional water-mass temperature structure during the winter season are discussed.
BDR 7230-2-86	AXBT Measurements of Ocean Temperature Conditions in the Northeast Pacific, July 1983	1986	40 p.	Kerling, Jeffrey L.	L	B115 369	During July 1983, the RP-3A Project BIRDSEYE aircraft conducted AXBT temperature measurements in the NE Pacific Ocean. This report presents horizontal contour charts and vertical sections of temperature and AXBT profiles along selected flight lines.
BDR 7230-3-85	AXBT Measurements of Ocean Temperature Conditions in the Northeast Pacific, April 1983 -	1985	41 p.	Kerling, Jeffrey L.	L		During April 1983, the RP-3A Project BIRDSEYE aircraft conducted AXBT temperature measurements in the Northeast Pacific Ocean. This report presents horizontal contour charts and vertical sections of temperature, and AXBT profiles along selected flight lines. Preliminary analyses of these data products relating to regional water-mass temperature structure during the spring season are discussed.
BDR 7230-3-86	AXBT Measurements of Ocean Temperature Conditions in the Northeast Pacific, September - October 1982	1986	43 p.	Kerling, Jeffrey L.	L	B115 370L	During Sep-Oct 1982, the RP-3A Project BIRDSEYE aircraft conducted AXBT temperature measurements in the NE Pacific Ocean. This report presents horizontal contour charts and vertical sections of temperature and AXBT profiles along selected flight lines.
BDR 7230-4-85	AXBT Measurements of Ocean Temperature Conditions in the Northeast Atlantic, July - August 1984	1985	42 p.	Kerling, Jeffrey L.	L		During July-August 1984, the RP-3A Project BIRDSEYE conducted AXBT temperature measurements in the Northeast Atlantic Ocean. This report presents horizontal contour charts and vertical sections of temperature and AXBT profiles along selected flight lines.
BDR 7230-4-86	AXBT Measurements of Ocean Temperature Conditions in the Northeast Atlantic, July - August 1985	1986	38 p.	Kerling, Jeffrey L.	L	B115 371L	During July-Aug 1985, the RP-3A Project BIRDSEYE aircraft conducted AXBT temperature measurements in the NE Atlantic Ocean. This report presents horizontal contour charts and vertical sections of temperature and AXBT profiles along selected flight lines.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
BDR 7230-5-85	AXBT Measurements of Ocean Temperature Conditions in the Northeast Atlantic, November-December 1984	1985	42 p.	Kerling, Jeffrey L.	L		During November-December 1984, the RP-3A Project BIRDSEYE aircraft conducted AXBT temperature measurements in the Northeast Atlantic Ocean. This report presents horizontal contour charts and vertical sections of temperature and AXBT profiles along selected flight lines.
BDR 7230-6-85	AXBT Measurements of Ocean Temperature Conditions in the Northeast Atlantic, January - February 1985	1986	38 p.	Kerling, Jeffrey L.	L		During January-February 1985, the RP-3A Project BIRDSEYE aircraft conducted AXBT temperature measurements in the Northeast Atlantic Ocean. This report presents horizontal contour charts and vertical sections of temperature and AXBT profiles along selected flight lines.
BDR 7310-01-86	Western South Atlantic Ocean Environmental Data at Bottom-Loss Sites Vol. I	1986	175 p.	Younghans, Helen M.	L		This report presents all the oceanographic and geophysical data collected at 43 sites in the western South Atlantic Ocean between May and August 1983.
RP -2	Atlas of North Pacific Ocean Monthly Mean Temperatures and Mean Salinities of the Surface Layer	1976	194 p.	Robinson, Margaret K.	U		Provides temperature charts at 100-ft depths, surface to 400 ft, based on 17 years of BT data. Also provides annual cycle temperature curves at 5 degrees lat. and 10 degrees lon. intervals and mean monthly thermocline depth charts.
RP -3	Regional Geological/Geophysical Study of the Caribbean Sea (Navy Ocean Area NA-9)	1976	24 p.	Matthews, James E. Holcombe, Troy L.	U	A085 888	Seven geophysical maps and three track control maps based on all available bathymetric, magnetic, and seismic reflection data for the Venezuelan Basin.
RP -8	Numerical Ice Forecasting System	1975	138 p.	Gerson, Donald J.	U	A023 183	Forecasting aids for ice formation and thickness for 62 Arctic locations. Also provides aids for sea surface temperatures, snow depths, mean, and degree-day accumulations.
RP -8-S	Wind Drift of Sea Ice, a Supplement to the Naval Oceanographic Office Numerical Ice Forecasting System	1976	21 p.	Gerson, Donald J. Simpson, Lloyd S.	U	A038 019	Forecasting aids for ice formation and thickness for 62 Arctic locations. Also provides aids for sea surface temperatures, snow depths, mean and degree-day accumulations.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
RP -9	Statistical Summary of Ocean Fronts and Water Masses in the Western North Atlantic	1976	27 p.	Khedouri, E. Gemmell, W. Shank, M.K.	U	A084 182	Spatial variability and thermal characteristics of the Gulf Stream and the Slope Front are summarized to show the average or typical conditions. Thermally related parameters, such as sonic layer depths and sound channels, are summarized for each water mass separated by these fronts and subdivided by seasons. Results show that the thermal structure in the Gulf Stream region can be predicted if the position of the Gulf Stream North Wall is known.
RP -11-1	Biofouling Intelligence Handbook	1976	100 p.	DePalma, John R.	L	C007 635	Compilation of pertinent information on the common N. Atlantic fouling organisms found on fixed and floating objects in the sea.
RP -12	Final Report on Marine Biofouling Studies at Admiralty Inlet, Washington	1976	13 p.	DePalma, John R.	U	A028 786	Summarizes test panel studies, August 1963 - June 1968. Thirty-seven species were collected and identified.
RP -13	Theory and Practice of Geophysical Survey Design	1974	137 p.	Davis, Thomas M.	U	A003 078	A theory for designing parallel track-type geophysical surveys and numerical algorithms for implementing surveys.
RP -14	Gravity Prediction by Pseudo-Density Profiling	1975	68 p.	Hill, Donald W.	U	A022 869	Investigates gravity prediction in sparsely surveyed areas. (Master's Thesis, University of Pennsylvania).
RP -15	Marine Biofouling Studies in the Gulf of Siam	1977	11 p.	DePalma, John R.	U	A049 269	Summarizes test panel studies in the North Gulf of Siam, 1968-1972. Fifty-two species were collected and identified.
RP -16	Regional Geological Maps of the Northeast Pacific	1978	27 p.	Morton, William T. Lowrie, Allen	U	A062 095	Provides nine geophysical and geological maps based on all available bathymetric, magnetic, seismic reflection, and core sample data.
RP -17	Aerial Ice Reconnaissance and Satellite Ice Information Microfilm File	1976	30 p.	Mitchell, Peter A.	U	A037 300	Supplements Arctic data contained in the SP 70 series (discontinued 1971) and Antarctic data in the SP 80 series (discontinued 1969).
RP -17(76)	Aerial Ice Reconnaissance and Satellite Ice Information Microfilm File - 1976	1977	8 p.	Mitchell, Peter A.	U	A043 046	Provides in chart form ice conditions observed by aerial reconnaissance and interpreted from satellite imagery for the eastern and western sectors of the North American Arctic and in selected portions of the seas surrounding the Antarctic Continent.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
RP -18	Atlas of North Atlantic-Indian Ocean Monthly Mean Temperatures and Mean Salinities of the Surface Layer	1979	234 p.	Robinson, Margaret K. Bauer, Roger A. Schroeder, Elizabeth H.	U	A087 571	Provides temperature charts at 100-ft depths, surface to 492 ft, based on 28 years of BT data. Also provides annual cycle temperature curves at 5 degrees lat. and 10 degrees long. intervals and mean monthly thermocline depth charts.
RP -19	ICAPS Water Mass History File	1978	13 p.	Fisher, Alvan, Jr.	U	A085 000	Discusses the Integrated Command Antisubmarine Warfare Prediction System.
RP -20	Oceanographic Analysis Manual for On-Scene Prediction Systems	1978	93 p.	Fisher, Alvan, Jr.	U	A085 947	Provides basic techniques and samples for applying oceanographic analyses to acoustic performance prediction with particular emphasis on quality control of XBT data.
RP -21	Guide to Common Shipboard Expendable Bathythermograph (SXBT) Recording Malfunctions	1978	46 p.	Blumenthal, Barry P. Kroner, Stephen M.	U	A102 085	An aid to discern SXBT good data from bad data. Describes erroneous traces and simplest methods of rectifying most common problems.
RP -23	U.S. Naval Oceanographic Office Geomagnetic Surveys	1982			U	A115 654	Contains location charts and brief descriptions of geomagnetic surveys conducted by NAVOCEANO and provides information on the format and availability of the resulting data.
RP -24	Program Operating Procedures for the Integrated Command ASW Prediction System (ICAPS), Vol. I, Rev. A	1981			U	A107 558	This document introduces, explains, and provides detailed guidance for use of the ICAPS system and software suite.
RP -27	Hydrographic Survey Assistance Program (HYSAP); Listing of Surveys and Charts	1984	39 p.		U		List of surveys, completed and proposed, and the associated chartographic products for countries participating in the Hydrographic Survey Assistance Program (HYSAP).
RP -29	Acoustic Reference Service: A Subset of the Oceanographic Management Information System	1980	32 p.	Vinson, Philip S.	U		The OMIS uses NAVOCEANO computer facilities to contribute an inventory of underwater acoustic data and associated environmental measurements. Provides information concerning the existence, density, location and status of acoustic data.
RP -30	Indian Ocean Geological, Geophysical, and Oceanographic Data Catalog, USNS WILKES, 1977-1979	1980	39 p.	Little, Luther DiPiazza, Nicholas J. Vestal, William J. Searcy, William P., III	U	A089 459	A summary of the type, amount and location of the environmental data collected by the USNS WILKES (T-AGS 33) during surveys in the Indian Ocean from May 1977 to December 1979.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
RP -31	Oceanographic Environmental Reference Service Retrieval Program Users Guide	1981	32 p.	Rein, Richard L.	U	A097 340	Detailed instruction are presented for the retrieval of information from the Oceanographic Environmental Reference Service Data Base, which is accessed by the use of an interactive program. The data base is designed to serve as an inventory of oceanographic data collection efforts and an index to data collected.
RP -33	Fleet Oceanographic and Acoustic Reference Manual (CD-ROM)	1999	—		L		This publication is designed for use by the meteorology and oceanology (METOC) community and Fleet operators to familiarize themselves with acoustic and oceanographic information for application to naval operations. Specific subjects are covered by chapter with references, definitions, and acronyms provided in appendices.
RP -35	Coastal Environmental Reference Service Retrieval Program Users Guide	1981	22 p.	Blumenthal, Richard B. O'Quinn, Bobby	U		Detailed instructions are presented for the retrieval of information from the Coastal Environmental Reference Service Data Base via the use of an interactive retrieval program. The data base contains information on coastal studies, data collection sites, and types of data collected.
RP -36A	Environmental Files and Data Bases, Holdings of the Naval Oceanographic Office, Part A: Introduction and Oceanographic Management Information	1981	104 p.	Miller, Carl W.	U	A113 687	This publication provides information about the environmental data holdings of NAVOCEANO. Chapters contain descriptions and summaries of the Oceanographic Information System's services: acoustic, bathymetric, geomagnetics, gravity, hydrography, marine geology, physical oceanography, climatology, and biology.
RP -37	Oceanographic Technology Information Service User's Guide	1981	54 p.	Miller, George H.	U	A104 670	This publication references the Data Management System which utilizes the NAVOCEANO computer facilities. Its purpose is to identify, define, and serve as a focal point for oceanographic and technological capabilities currently being maintained by or available to the Navy that are required to support research and operations in oceanography, meteorology and mapping, charting and geodesy.
RP -42A	Typical Expendable Bathythermograph (TXBT) Data Base, Atlantic Ocean	1982	504 p.		L		Typical expendable bathythermograph (XBT) profiles for the Integrated Command ASW Prediction System (ICAPS) operating areas of the North Atlantic, Pacific and Indian Oceans are presented. These XBT profiles represent a new ICAPS oceanographic data base for the upper 400 meters of the ocean. Profiles were developed from the extensive bathymetric data holding of NAVOCEANO.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
RP -42B	Typical Expendable Bathymetherograph (TXBT) Data Base, Pacific Ocean	1982	489 p.		L	B083 007L	See RP 42A description.
RP -42C	Typical Expendable Bathymetherograph (TXBT) Data Base, Indian Ocean	1982	240 p.		L		See RP 42A description.
RP -43	Oceanographic Analysis Manual for ICAPS Users	1982	37 p.	Angell, Gordon G Webb, Lowell E.	U	A122 691	This report is intended to acquaint naval personnel having limited oceanographic training and experience with an approach to analysis of oceanographic data as applied to acoustic performance predictions. Special emphasis is placed on computer-assisted techniques.
RP -46	Data Processing Principles for NAVOCEANO Expendable Bathymetherograph Data	1984	26 p.	Broome, Robert D.	L		Processing and quality control of expendable bathymetherograph data collected with NAVOCEANO shipborne and airborne Digital Acquisition Recorders is presented. Topics addressed include data translation, data editing, conversion to scientific units, and reduction of the data to equally spaced depth intervals.
RP -49	NAVOCEANO Acronym Dictionary	1997	74 p.				This document is a list of acronyms and abbreviations frequently used by the Naval Oceanographic Office (NAVOCEANO).
RP -51	Catalog of Naval Oceanographic Office Unclassified Publications	1999	98 p.		U		A catalog of unclassified official NAVOCEANO publications issued through July 1999. Contains a short explanatory abstract for each listing.
RP -52	Desk Reference for Receiver-Recorder Set, Meteorological Data AN/SMQ-11	1993	55 p.		L		This document assists junior NAVOCEANCOM officers and enlisted personnel in acquiring basic knowledge and skills to effectively operate the Receiver-Recorder Set, Meteorological Data AN/SMQ-11.
RP -54	Oceanographic Data Sets for Modeling and Simulation	1995			U		Available at NAVOCEANO Home Page. http://www.navy.mil/noframe/publist.htm
RP -56	Naval Oceanographic Office Programming Practices, Standards, and Conventions (PPS&C)	1996	102 p.	Madere, Sharon Avery, Dominic Depner, Jan Harrison, Tom Hollingsworth, Willie Kyle, Mike Malley, David Miller, George Moseley, Jeff	L		The Naval Oceanographic Office Programming Practices, Standards, and Conventions document specifies requirements to be followed in selecting, designing, developing, testing, operating, documenting, and maintaining software for the Naval Oceanographic Office.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
RP -57	Naval Oceanographic Office Five-Year Communications Plan (FY 1998-2002)	1998	52 p.	L			This plan provides a NAVOCEANO consolidated policy and guidance with respect to electronic communications and an overview of existing communications, and identifies communications requirements for the 1998-2002 time period. Functional descriptions of communications architectures, both internal and external to NAVOCEANO, are provided. This plan is intended as a reference for internal NAVOCEANO guidance with respect to communications planning and programming activities. It provides the roadmap for the transition and implementation of a three-phase upgrade program over the next five years.
RP 134-18-2	Bottom Loss Measurements in the Gulf of Mexico, Part I. Data Presentation	1976	150 p.	L	C006 131L		A bottom loss survey was conducted in the Gulf of Mexico from September through December 1969, by NAVOCEANO scientists onboard the USNS KANE and R/V LANGEVIN. The purpose of the survey was to determine reflectivity characteristics of the sea floor in support of bottom bounce sonars.
RP 134-18-3	Bottom Loss Measurements in the Gulf of Mexico, Part II	1975	24 p.	Plani, James V. Scott, Harold M.	L	C006 132L	Bottom loss data were obtained for 64 stations in the Gulf of Mexico as a part of the NAVOCEANO ASW/USW surveys. The stations are grouped to form bottom loss provinces. Bottom loss province boundaries are based largely on areas of similar physiography and sediment structure.
RP 134-18-5	Aspects of Sound Speed Structure and Related Water Properties in the Gulf of Mexico, June-December 1969	1975	51 p.	Jarvela, Laurie E. McComas, William	U	A024 265	Examines required and seasonal features of water properties and currents between late spring and autumn, with emphasis on their relation to sound speed structure and sound propagation paths.
SP ---1	Application of Wave Forecasts to Marine Navigation	1957	85 p.	James, Richard W.	U	158 747	Discusses effects of currents, winds, and waves on navigation. Synoptic and prognostic wave charts are used to select least-time tracks. Graphs show relationships between ship speed and head, beam, and following waves.
SP -11	Tables for Rapid Computation of Density and Electrical Conductivity of Sea Water	1956	24 p.	U	103 555		Tables are presented for machine calculation of density and electrical conductivity of sea water from observed temperature and salinity values. Covers salinity range 10 degrees/00 to 40 degrees/00 for density and 0 degrees/00 to 40 degrees/00 for electrical conductivity.
SP --19	Selected Charts and Publications for Use in Arctic Submarine Operations	1958		L			A listing of navigational charts and related publications considered to be useful or essential for submarine operation in the Arctic region.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
SP -21	Charts and Publications for Antarctica Operations 1959-60	1959	12 p.		U		See SP 21 (1953-59) for description.
SP -21	Charts and Publications for Antarctica Operations 1958-59	1958	14 p.		U		A listing of nautical and aeronautical navigational charts of the Antarctic area. May be used for either air or surface navigation.
SP -22	Aerial Ice Reconnaissance, Observational Techniques and Recording and Reporting Procedures	1956	12 p.		U		Outlines procedures for conducting Aerial Ice Reconnaissance and contains illustrations of more common sea ice conditions.
SP -23	Listing of Foreign Port Calls by Merchant Ships (1955-1959)	1960	34 p.		U		See SP 23 (1953-56) for description.
SP -23	Listing of Foreign Port Calls by Merchant Ships (1957-1961)	1962	35 p.		U		See SP 23 (1953-56) for description.
SP -23	Listing of Foreign Port Calls by Merchant Ships (1961-1965)	1968	39 p.		U		See SP 23 (1953-56) for description.
SP -23	Listing of Foreign Port Calls by Merchant Ships (1953-1956)	1958	29 p.		U		Provides tables showing the number of port calls made at foreign ports by merchant vessels carrying U.S. cargo. The totals for each year include all ships over 1,000 gross tons, U.S. flag and other, and lading or unloading cargo for or from the U.S.
SP -23	Listing of Foreign Port Calls by Merchant Ships (1958-1962)	1963	37 p.		U		See SP 23 (1953-56) for description.
SP -23	Listing of Foreign Port Calls by Merchant Ships (1959-1963)	1964	36 p.		U		See SP 23 (1953-56) for description.
SP -32	Selective Bibliography of the Environmental Controls on Object Stability on the Sea Bottom	1960	121 p.	Duncan, John K.	U	247 912	Covers scientific literature in the fields of Marine Geology, Sedimentation, Hydrology, Oceanography, and Hydrography. Entries are annotated for applicability to behavior of bottom installations.
SP -33	Annotated Bibliography of Flushing and Dispersion in Tidal Waters	1960	34 p.	Fisher, Leo J.	U	260 898	Covers scientific literature in the field of hydraulics, hydrology, and oceanography. Entries are annotated for applicability to flushing contaminated sea water by tides.
SP -41	Oceanographic Instrumentation: Final Report of the Committee on Instrumentation	1960	217 p.	Stephan, E. C.	U	660 458	This report reviews annually developments in marine geophysical instrumentation and summarizes significant accomplishments in instrumentation.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
SP -44	Visual Wave Observations	1956		Pierson, Willard	U		Techniques for the correct procedure to be followed in the visual observation of ocean waves are described.
SP -52	Positioning Data for Selected HO 15,976 Series Charts - Training Areas	1960			U		The essential navigational positioning aids that appear on the selected H.O. 15,976 series of charts and in this publication are to be used with the H.O. 15,976 series of charts.
SP -53	Summary of Oceanographic Conditions in the Indian Ocean	1960	142 p.		U		An analysis of marine meteorological and oceanographic observations available up to 1955 were compiled as a planning aid for the International Indian Ocean Expedition.
SP -56	Quality of the Bottom: A Glossary of Terms	1961	8 p.	Berninghausen, William H.	U		This report defines bottom sediment notations that appear on both U.S. and foreign navigation charts.
SP -58	Tables of Sound Speed in Sea Water	1962	47 p.		U		Tables are based on Wayne D. Wilson's equation for speed of sound in sea water. A pressure-depth relationship is established whereby tables may be used with either depth or pressure.
SP -60	Long-Range Ice Outlook, Eastern Arctic (1963)	1963	19 p.		U	404 009	Extensive evaluation of available information indicates that present ice conditions in the Labrador Sea and along the Newfoundland coast are nearly similar to those observed in 1959.
SP -60	Long-Range Ice Outlook, Eastern Arctic (1962)	1962	9 p.		U	277 730	An outlook of expected sea-ice conditions in Baffin Bay and the Labrador Sea is presented for the period mid-May through mid-September 1962.
SP -60(64)	Long-Range Ice Outlook, Eastern Arctic (1964)	1964	20 p.		U	442 309	Presents an analysis of oceanographic and climatic data for forecasting ice growth during the winter 1963-64 and the climatic outlook for the 1964 arctic shipping season are included.
SP -60(65)	Long-Range Ice Outlook, Eastern Arctic (1965)	1965	10 p.		U	615 551	An outlook of expected sea ice conditions in the eastern North American Arctic is presented for the period mid-May through mid-August 1965.
SP -60(66)	Long-Range Ice Outlook, Eastern Arctic (1966)	1966	27 p.		U	633 899	An analysis of oceanographic and climatic data for forecasting the ice growth during the winter 1965-66 and the climatic outlook for the 1966 Arctic shipping season is included.
SP -60(67)	Long-Range Ice Outlook, Eastern Arctic (1967)	1967	24 p.		U	663 055	An outlook of expected sea ice conditions in the eastern North American Arctic is presented for the period mid-May through mid-August 1967.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
SP -60(68)	Eastern Arctic Ice Seasonal Outlook	1968	8 p.		U	669 302	The seasonal ice outlook presents a written and graphic description of ice conditions expected during forthcoming operations of the Military Sea Transportation Service (MSTS) in the eastern Arctic.
SP -60(69)	Eastern Arctic Ice, the Seasonal Outlook 1969	1969	11 p.		U	A951 819	An outlook of expected sea-ice conditions in the North American Arctic is presented.
SP -60(71)	Eastern Arctic Ice, 1971 Seasonal Outlook	1971	11 p.		U	A951 820	An outlook of expected sea-ice conditions in the North American Arctic is presented.
SP -60(72)	Eastern Arctic Ice, Seasonal Outlook 1972	1972	12 p.		U		An outlook of expected sea-ice conditions in the North American Arctic is presented.
SP -60(73)	Eastern Arctic Ice, 1973 Seasonal Outlook	1973	12 p.		U		An outlook of expected sea-ice conditions in the North American Arctic is presented.
SP -60(73)	Eastern Arctic Ice, 1973 Seasonal Outlook	1973	12 p.		U		An outlook of expected sea-ice conditions in the North American Arctic is presented.
SP -63	Charts of Parameters Affecting Convergence Zone, Variable Depth, and Surface Duct Sonar Ranges in the Northern Hemisphere and Off Southeast Asia	1962	53 p.	Bialek, Eugene L. Mooney, A. Russell	L	C007 802	This document provides in a single compact volume the basic environmental Northern Hemispheric inputs required of most active sonar systems.
SP -64	Statistical Rose Program	1962	17 p.	Yergen, W.E.	U	401 717	Describes the IBM 7070 computer program useful for the statistical processing of bivariate data fields expressed in polar coordinates or rose form.
SP -66	Airborne Geomagnetic Data, 1953-1961	1963	573 p.		U	425 109	Contains geomagnetic data acquired by Project MAGNET through 1961.
SP -66	Airborne Geomagnetic Data, Supplement No. 1, 1962-1963	1965	839 p.		U	714 773	Provides an addendum of data from 1962 through 1963 and also provides an appendix of corrections for SP 66.
SP -68	Handbook of Oceanographic Tables	1966	52 p.	Bialek, Eugene L.	U	655 638	Tables are divided into four sections: General Mensuration Information Related to the Oceans, Data on Oceans not Related to Geography, Data on Oceans Related to Geography, and Tables for Computation and Conversions.
SP -69	Analysis of the Variation in Sound Velocity in Relation to Water Masses Below 2,000 Meters in the North Atlantic Ocean	1964	52 p.	Moore, Carl T. Kaufman, Oscar Dillon, David B.	L	C008 046	This document gives the results of an analysis of the variation in sound velocity in the four major water masses in the North Atlantic Ocean.
SP -70(60)	Report of the Arctic Ice Observing and Forecasting Program - 1960	1962	208 p.	Knoll, Denys W.	U	436 455	Graphically summarize Arctic Ice Data collected during specified periods. Methods of data collection, dissemination of ice forecasts, and forecast verification are discussed.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
SP -70(61)	Report of the Arctic Ice Observing and Forecasting Program - 1961	1964	174 p.		U	616 262	See SP 70(60) description.
SP -70(62)	Report of the Arctic Ice Observing and Forecasting Program - 1962	1965	172 p.		U	616 261	See SP 70(60) description.
SP -70(63)	Report of the Arctic Ice Observing and Forecasting Program - 1963	1965	188 p.		U	620 875	See SP 70(60) description.
SP -70(64)	Report of the Arctic Ice Observing and Forecasting Program - 1964	1965	188 p.		U	628 536	See SP 70(60) description.
SP -70(66)	Report of the Arctic Ice Observing and Forecasting Program - 1966	1968	91 p.		U	847 277	See SP 70(60) description.
SP -70(67)	Report of the Arctic Ice Observing and Forecasting Program - 1967	1968	79 p.		U	848 878	See SP 70(60) description.
SP -70(68)	Report of the Arctic Ice Observing and Forecasting Program - 1968	1969	104 p.		U	864 975	See SP 70(60) description.
SP -70(69)	Report of the Arctic Ice Observing and Forecasting Program - 1969	1970	173 p.	Knisken, F. E.	U	877 739	See SP 70(60) description.
SP -70(70)	Report of the Arctic Ice Observing and Forecasting Program - 1970	1972	249 p.	Potocsky, G. J.	U	750 744	See SP 70(60) description.
SP -70(71)	Report of the Arctic Ice Observing and Forecasting Program - 1971	1974	216 p.	Mitchell, Peter A.	U	A042 709	See SP 70(60) description.
SP -74	Instructions for Tending the Portable Automatic Tide Gage	1964	15 p.		U		Simple instructions for non-Oceanographic Office personnel tending the Portable Automatic Tide Gage.
SP -79	Oceanography for Long Range Sonar Systems. Part II: Deepwater Transmission and Operational Planning	1966	64 p.	Swanson, Bernard K.	L	635 668	See SP 79, Part I description.
SP -79	Oceanography for Long Range Sonar Systems. Part I: Introduction to Oceanography and Physics of Underwater Sound in the Sea	1966	121 p.	Swanson, Bernard K.	L	386 223	Provides background in oceanography and underwater acoustics for military planning of long-range sonar systems or allied fields.
SP -80(62)	Antarctic Ice Observations, October 1962 - March 1963	1963	58 p.		U	436 698	Graphically summarizes Antarctic ice data collected during specified periods. Methods of data collection, dissemination of forecasts, and forecast verification are discussed.
SP -80(63)	Antarctic Ice Observations, October 1963 - January 1964	1965	27 p.		U		See SP 80(62) description.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
SP -80(64)	Report of the Antarctic Ice Observing and Forecasting Program - 1964	1966	31 p.		U		See SP 80(62) description.
SP -80(65)	Report of the Antarctic Ice Observing and Forecasting Program - 1965	1967	26 p.		U	814 009	See SP 80(62) description.
SP -80(66)	Report of the Antarctic Ice Observing and Forecasting Program - 1966	1967	28 p.		U	822 773	See SP 80(62) description.
SP -80(67)	Report of the Antarctic Ice Observing and Forecasting Program - 1967	1969	36 p.	Perchal, R. J.	U	850 615	See SP 80(62) description.
SP -80(68)	Report of the Antarctic Ice Observing and Forecasting Program - 1968	1969	28 p.	Potocsky, G. J.	U	865 084	See SP 80(62) description.
SP -80(69)	Report of the Antarctic Ice Observing and Forecasting Program - 1969	1971	125 p.	Perchal, Rudolph J.	U	737 410	See SP 80(62) description.
SP -82	Manual of Short-Term Sea Ice Forecasting Applications	1964	142 p.	Wittmann, Walter I. MacDowell, Gordon P.	U	627 524	An initial attempt to present ice prediction methods systematically.
SP -84	Oceanography and Underwater Sound for Naval Applications	1965	134 p.				Presents relationship of oceanographic environmental and underwater sound to antisubmarine warfare.
SP -92	Ocean Currents in the Arabian Sea and Northwest Indian Ocean	1966		Boisvert, William E.	U		Presents surface currents and wind data from all available sources. Prevailing currents, probable currents, and mean current speed in knots are given. Wind roses cover 5-degree quadrangles.
SP -93	Circulation Patterns, Johnston Island, Winter-Summer 1965	1966	240 p.	Kopinski, R. P. Wennekens, M. P.	U	A950 144	Discusses regional circulation based on aerial reconnaissance, parachute drogues, and moored current meters. Key factors affecting circulation patterns around Johnston Island are presented.
SP -99	Monthly Charts of Mean, Minimum, and Maximum Sea Surface Temperature of the Indian Ocean	1967	48 p.		L		Contains temperature charts at 100-ft depths, surface to 492 ft, based on 28 years of BT data. Also provides annual cycle temperature curves at 5 degrees lat. and 10 degrees long. intervals and mean monthly thermocline depth charts.
SP -100(66)	Long-Range Ice Outlook, Antarctic (1966-67)	1966	11 p.	Johnson, Jimmie D. Potocsky, Gabriel J.	U		An outlook of expected sea ice conditions in regions of Antarctica is presented.
SP -100(67)	Long-Range Ice Outlook, Antarctic (1967-68)	1967	11 p.	Potocsky, Gabriel J. Kniskern, Franklin E.	U	826 170	See SP 100(66) description.
SP -100(68)	Long-Range Ice Outlook, Antarctic (1968-69)	1968	12 p.	Potocsky, Gabriel J. Kniskern, Franklin E.	L	848 403	See SP 100(66) description.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
SP -100(69)	Long-Range Ice Outlook, Antarctic (1969-70)	1969	15 p.	Potocky, Gabriel J. Perchal, Rudolph J.	L	867 384	See SP 100(66) description.
SP -103	Decoding and Plotting	1966	42 p.	Tapager, James R. D.	L		Discusses procedures used in the first stage of the data reduction process, after oceanographic observations have been transmitted from the collection points.
SP -105	Ocean Thermal Structure Forecasting	1966	217 p.	James, Richard W.	U	631 720	Outlines procedures for manually predicting ocean thermal structure with emphasis on small-area forecasting over a limited time period.
SP -109	Numerical Techniques	1965	26 p.	Thompson, Bertrand J.	U	645 290	Outlines procedures for collecting, editing, analyzing, and transforming ASWEPs thermal structure prediction data to yield operational sonar range charts.
SP -111	Data Requirements for Synoptic Sea Surface Temperature Analysis	1967	29 p.	James, Richard W.	L	825 597	Provides guidelines for quantity and quality of synoptic data required for reliable sea surface temperature charts.
SP -120	CHASE VI Search Operations	1968	53 p.	Daugherty, F. M., Jr. Cheeseman, Joseph A. Carroll, Jerry C.	L	830 742	Describes the events during the scuttling of the ROBERT LOUIS STEVENSON (World War II Liberty ship) near the Aleutian Islands. The ship, loaded with explosives, drifted and sank into shallow water. NAVOCEANO personnel were involved in locating the hulk.
SP -122	Oceanographic Surveys, Fiscal Year 1967	1968	33 p.		U	837 085	This document describes unclassified oceanographic surveys done by or contracted for NAVOCEANO during the period 1 July 1966 through 30 June 1967.
SP -123	Monthly Charts of Mean, Minimum, and Maximum Sea Surface Temperature in the North Pacific Ocean	1969	58 p.	LaViolette, Paul E. Seim, Sandra E.	U	698 125	Provides temperature charts at 100-ft depths, surface to 400 ft, based on 17 years of BT data. Also provides annual cycle temperature curves at 5 degrees lat. and 10 degrees long, intervals and mean monthly thermocline depth charts.
SP -125	Oceanographic Surveys, Fiscal Year 68	1969	54 p.		U	695 464	The report describes unclassified oceanographic surveys done by or contracted for NAVOCEANO during the period 1 July 1967 through 30 June 1968.
SP -133-18-1	Oceanographic Survey Report Sea of Japan	1974	167 p.		U	786 136	This report presents geological, geophysical, and physical oceanographic data of the Sea of Japan survey conducted October 1967 to June 1968.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
SP -133-18-2	Bottom Loss Measurements in the Sea of Japan	1974	130 p.	Christensen, Robert E. Scott, Harold M.	L	C001 101L	Acoustic survey conducted in the Sea of Japan during April and May 1968 onboard the USNS BENIT and the R/V HUNT. Bottom-loss measurements of underwater sound signals, ocean floor conditions, and types of sediment structure are presented in this report.
SP -138	Spheroidal Geodesics, Reference Systems, and Local Geometry	1970	165 p.	Thomas, P. D.	L	703 541	A highly technical treatise on the oblate spheroid (reference ellipsoid) with formulas of geodetic accuracy for noniterative direct and inverse solutions, using natural trigonometric functions adaptable to high-speed computer.
SP -142	Marine Geophysical Survey (1965-1968) Station-Data Listing and Report Catalog	1974	88 p.	Chanesman, Stanley Kaufman, Oscar	U	777 401	This document is a catalog of collected Marine Geophysical Survey (MGS) data and published MGS reports. It lists the types of measurements (acoustic, oceanographic, and geophysical) made at 1,182 stations in the North Atlantic and North Pacific Oceans.
SP -152	Microwave Observations of the Ocean Surface, Analyses of the NASA/Navy Review, 11-12 June 1969	1970	292 p.		U	718 773	Contains results of passive and active remote-sensing microwave experiments.
SP -153	Manned Submersibles and Underwater Surveying	1970	156 p.		U	722 259	The purpose of this report and the objectives of the Deep Oceanographic Survey Vehicle (DOSV) Project are (1) to define the state-of-the-art and availability of submersible instrumentation to conduct an overseas survey, (2) to define the capability for conducting surveys with available Navy and commercial submersibles, (3) to define the operational performance and design criteria, as deduced from operational experience, for a near-optimal DOSV, and (4) to show those areas of ocean surveying where the manned submersible is best applied and has demonstrated its unique capability.
SP -185	Tide Tables, High and Low Water Predictions, 1973: South Vietnam, Cambodia, and North Vietnam	1973	72 p.		U		The 1973 tide tables contain the predicted times and heights of the high and low waters for each day at Cap Saint-Jacques, Qui Nhon, Da Nang (Tourane), and Do Son.
SP -189	Environmental-Acoustics Atlas of the Caribbean Sea and Gulf of Mexico, Volume I. Marine Acoustics	1972	275 p.		L	523 097L	This atlas summarizes available acoustic and environmental data in the Caribbean Sea, Gulf of Mexico, and in their Atlantic approaches between 10 degrees N and 30 degrees N and approximately 56 degrees W.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
SP -189II	Environmental-Acoustics Atlas of the Caribbean Sea and Gulf of Mexico, Volume II. Marine Environment	1972	181 p.		U	752 494	See SP 189II description.
SP -211	Environmental Guide to the Virginia Capes Operating Area	1973	58 p.	Fisher, Alvan, Jr.	U	A102 092	Provides an overall perspective of oceanography in the Virginia Capes Operating Area.
SP -250	Marine Environmental Planning Guide for the Hampton Roads/Norfolk Naval Operating Area	1974	272 p.	Beauchamp, R.G.	U		The marine environment of the Atlantic Ocean up to 180 miles east of the coast of Virginia and North Carolina is summarized and evaluated to estimate the effects of introduced pollutants.
SP -259	Nearshore Currents and Coral Reef Ecology of the West Coast of Guam, Mariana Islands	1974	185 p.	Huddell, Howard D. Willett, J. Craig Marchand, Gregory	U	780 435	Describes two field investigations of the currents and coral reef ecology of Guam during the winter and summer of 1971.
SP -260	Analysis of Deflection-of-the-Vertical Inner-Zone Methods	1974	75 p.	Konlis, Angelo L. Michlik, Rudolph R. Davis, Thomas M.	U	776 225	Provides charts showing the collection of massive amounts of gravity data at sea, processed to produce mean anomalies and computation of the vertical deflection by the method of Vening Meinez.
SP -261	Preliminary Results of Little Window 2: A Satellite Ocean Station Experiment in the Gulf of California	1974	90 p.	LaViolette, Paul E.	U	A002 457	Consists of a compilation of papers presented April 1972 during the Little Window 2 Workshop.
SP -262	Study of Nearshore Marine and Beach Ecology, Pacific Missile Range Facility, Kauai, Hawaii	1977	40 p.	Huddell, Howard D. Willett, J. Craig	U	A043 183	Discusses environmental impact of cable-laying operations at Barking Sands, July 1974.
SP -263	Alaskan Area 15- and 30-day Ice Forecasting Guide	1975	187 p.	Potocsky, G. J.	U	A010 527	Details procedures for forecasting ice edge movement, ice growth, and ice disintegration using current ice and environment data.
SP -265	Western Ross Sea and McMurdo Sound Ice Forecasting Guide	1975	132 p.	Perchal, R. J.	U	A102 093	Contains procedures for preparing short-range (48 Hr.) and long-range (15- to 30-Day) predictions of sea-ice conditions.
SP -266	Eastern Arctic Area 15- and 30-day Ice Forecasting Guide	1979	257 p.	Mitchell, P. A.	U	A072 930	Predicts growth, movement, and decay of sea ice based on storm tracks, sea level temperature, and surface currents.
SP -272-1	Atlantic and Mediterranean Tables of Communication Station Azimuths and Loran-C Station Azimuths and Distances	1979			L	A085 307	The tables in SP-272-1 are designed for users of the Navy communications and LORAN-C stations. The tables give azimuths to communication and LORAN-C stations and distances to LORAN-C stations. Index diagrams of coverage of the various tables are provided.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
SP -272-2	Pacific Ocean Tables of Communication Station Azimuths and Loran-C Station Azimuths and Distances	1981	466 p.	L			The tables in SP 272-2 are designed for users of the Navy communication and LORAN-C stations. The tables give azimuths to communication and LORAN-C stations, and distances to LORAN-C stations. Index diagrams of coverage of the various tables are provided.
SP -281	Sound-Speed Atlas, Volume I: The North Atlantic Ocean	1990	90 p.	Gathof, Jerry M. Clifford, Melody A.	L		A basin scale view of acoustic parameters in the North Atlantic for planners of fleet operations. Various charts of such acoustic parameters as Sonic Layer Depth, Surface-Duct Cutoff Frequency, Sound-Channel Axis Depths, Conjugate Depths, Depth Excess, CZ Ranges, and Sound-Speed Provinces are provided.
SP 1400-NA 1	Surface Currents - Greenland Sea Including Denmark Strait	1978	25 p.	U	A085 441		This atlas, and the series of which it is a part, is computer generated and automatically plotted. It makes available to the user the most recent surface current data collected and will be updated whenever sufficient amounts of data are added to the data file.
SP 1400-NA 2	Surface Currents - Norwegian and Barents Seas	1978	28 p.	U	A085 445		See SP 1400-NA 1 description.
SP 1400-NA 4	Surface Currents - Northwest North Atlantic Ocean and Labrador Sea	1978	21 p.	U	A086 178		See SP 1400-NA 1 description.
SP 1400-NA 5	Surface Currents - Northeast North Atlantic Ocean	1978	28 p.	U	A094 012		See SP 1400-NA 1 description.
SP 1400-NA 6	Surface Currents - West Central North Atlantic Ocean Including East Coast of the United States	1978	24 p.	U	A102 094		See SP 1400-NA 1 description.
SP 1400-NA 7	Surface Currents - East Central North Atlantic Ocean	1978	25 p.	U	A085 439		See SP 1400-NA 1 description.
SP 1400-NA 9	Surface Currents - Southwest North Atlantic Ocean Including the Gulf of Mexico and Caribbean Sea	1981	47 p.	U	A108 701		See SP 1440-NA 1 description.
SP 1401-SA 4	Surface Currents - Southeast South Atlantic Ocean	1977	43 p.	U	A102 095		See SP 1400-NA 1 description.
SP 1402-NP 10	Surface Currents - Southwest North Pacific Ocean Including the Philippine Islands	1977	46 p.	U	A102 098		See SP 1400-NA 1 description.
SP 1402-NP 11	Surface Currents - Southwest Central North Pacific Ocean	1977	49 p.	U	A102 099		See SP 1400-NA 1 description.
SP 1402-NP 12	Surface Currents - Southeast Central North Pacific Ocean Including the Hawaiian Islands	1977	25 p.	U	A077 400		See SP 1400-NA 1 description.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
SP 1402-NP 13	Surface Currents - Southeast North Pacific Ocean Including the West Coast of Central America	1977	50 p.		U	A085 440	See SP 1400-NA 1 description.
SP 1402-NP 4	Surface Currents - Sea of Okhotsk Including the Kuril Islands	1977	48 p.		U	A102 096	See SP 1400-NA 1 description.
SP 1402-NP 5	Surface Currents - Bering Sea Including the Aleutian Islands	1977	52 p.		U	A089 812	See SP 1400-NA 1 description.
SP 1402-NP 6	Surface Currents - Gulf of Alaska	1977	52 p.		U	A089 813	See SP 1400-NA 1 description.
SP 1402-NP 7	Surface Currents - Northwest Pacific Ocean and Sea of Japan	1977	52 p.		U	A089 747	See SP 1400-NA 1 description.
SP 1402-NP 8	Surface Currents - North Central North Pacific Ocean	1977	47 p.		U	A095 979	See SP 1400-NA 1 description.
SP 1403-SP 1	Surface Currents - Northwest South Pacific Ocean Including the Coral and Solomon Seas	1977	25 p.		U	A085 442	See SP 1400-NA 1 description.
SP 1403-SP 2	Surface Currents - Northwest Central South Pacific Ocean	1977	27 p.		U	A085 381	See SP 1400-NA 1 description.
SP 1403-SP 3	Surface Currents - Northeast Central South Pacific Ocean	1977	26 p.		U	A085 443	See SP 1400-NA 1 description.
SP 1403-SP 4	Surface Currents - Southwest South Pacific Ocean Including the Tasman Sea	1978	26 p.		U	A094 013	See SP 1400-NA 1 description.
SP 1403-SP 5	Surface Currents - Southwest Central South Pacific Ocean	1977	28 p.		U	A094 014	See SP 1400-NA 1 description.
SP 1403-SP 6	Surface Currents - Southeast Central South Pacific Ocean	1977	28 p.		U	A094 015	See SP 1400-NA 1 description.
SP 1404-IN 1	Surface Currents - Northwest Indian Ocean Including the Arabian and Laccadive Seas	1977	21 p.		U	A093 993	See SP 1400-NA 1 description.
SP 1404-IN 2	Surface Currents - Northeast Indian Ocean Including the Bay of Bengal, Andaman Sea and South China Sea	1977	21 p.		U	A093 994	See SP 1400-NA 1 description.
SP 1404-IN 3	Surface Currents - West Central Indian Ocean Including Mozambique Channel	1977	25 p.		U	A085 444	See SP 1400-NA 1 description.
SP 1404-IN 4	Surface Currents - Central Indian Ocean	1977	27 p.		U	A093 995	See SP 1400-NA 1 description.
SP 1404-IN 5	Surface Currents - East Central Indian Ocean Including the East Indian Archipelago (Indonesia)	1977	27 p.		U	A093 996	See SP 1400-NA 1 description.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
SP 1404-IN 6	Surface Currents - Southwest Indian Ocean	1977	28 p.		U	A093 997	See SP 1400-NA 1 description.
SP 1404-IN 7	Surface Currents - South Central Indian Ocean	1977	27 p.		U	A093 998	See SP 1400-NA 1 description.
SP 1404-IN 8	Surface Currents - Southeast Indian Ocean Including the Great Australian Bight	1977	25 p.		U	A093 999	See SP 1400-NA 1 description.
TN 01-88	Portable Method for Compression, Storage, and Retrieval of High-Resolution Geographic Data Sets	1988	19 p.	Depner, Jan C. Hammack, James A.	L		The World Data Bank II (WDB II) data set contains high-resolution coastline, river, political boundary, railroad, highway, and other map data. This document describes a method of storing these data sets in direct-access mass-storage files.
TN 01-90	Modification of the Stem U-Frame System on USNS SILAS BENT and USNS KANE	1990	56 p.	Laurant, Aaron	U	A236 076	A modification of the Stem U-Frame systems on the USNS SILAS BENT and USNS KANE was developed to improve handling provisions during deployment and retrieval of large underwater tow bodies. Subject modifications on each ship were completed in 1989 with positive results.
TN 01-91	North Pacific Guyots	1991	101 p.	Smoot, N. Christian	U	A239 388	A bathymetric atlas of North Pacific guyots is presented as a series of chartlets along with a description, the derivation of names, and a history of guyots and associated geomorphology. The features were surveyed by swath bathymetric systems that provide total coverage and permit a comprehensive study of guyot geomorphology.
TN 01-92	Conversion of Contoured Polar Stereographic Projected Data into the Environmental Acoustic Interactive Data System (EAIDS)	1992	16 p.	Wiley, Ernest A. Kohsmann, James J.	U		In support of the Oceanographic and Atmospheric Master Library, the Naval Oceanographic Office (NAVOCEANO) was tasked with updating the Arctic Sediment Thickness Data Base. The data for this update were received as a Polar Stereographic Chart that was prepared by H.R. Jackson. This technical note describes the conversion of these polar stereographic data into a format acceptable for input into the Environmental Acoustic Interactive Data System (EAIDS).

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 01-93	Observed Currents from the Entrance of Pensacola Bay to the Vicinity of the Allegheny Pier, Naval Air Station, Pensacola, FL	1993	22 p.	Wahl, Robert J.	U	A265-971	In July 1992, the Naval Oceanographic Office received a request to provide real-time current measurements in support of USS FORRESTAL prior to and during several docking evolutions between late July 1992 and early September 1992. This report summarizes the development of a measurement system that collects and forwards current measurements in real time and describes the data collected from the Pensacola Bay entrance to the Allegheny Pier at the Naval Air Station, Pensacola, Florida.
TN 01-98	Error Budget for Survey Systems Aboard the USNS JOHN McDONNELL and USNS LITTLEHALES	1998	32 p.	Haskell, Margaret F.	L		A depth and position error budget for survey systems aboard the hydrographic vessels USNS JOHN McDONNELL and USNS LITTLEHALES was determined by a root mean square analysis of combined measurement errors from multibeam sonar, heave, roll, pitch, gyro, sound speed, tide, and navigation sensors. Errors were calculated for both center beam and outermost beam of each survey mode, and for flat seafloor and 10 degree slope. Total errors were then related to IHO standards as existed prior to 1998.
TN 02-89	ZBTLs: Zenith-248 Version of Bottom-Loss Model Program	1989	24 p.	Kohsmann, James J.	L	B138 032L	This note documents the adaptation and modifications of the forward-inversion model of bottom loss, BTLS, and presents examples of the program's use.
TN 02-93	A Calibration Procedure for the SBE 19 Conductivity, Temperature, and Depth (CTD) Profiler	1993	14 p.	Lessing, Peter A.	U	A264-435	A procedure for calibration of conductivity, temperature, and depth (CTD) sensors of SBE 19 CTD profilers is discussed. Pressure is calibrated using a linear model; temperature is calibrated using a third-order polynomial least-squares fit. A Levenberg-Marquardt nonlinear parameter estimation technique is used to model the conductivity sensor.
TN 03-89	ZBTAB: Zenith-248 Version of BLUGTAB	1989	7 p.	Kohsmann, James J.	U	A214-279	A version of BLUGTAB able to run interactively on a Zenith-248 is discussed.
TN 03-93	Optical Properties of the Red Sea	1993	37 p.	Kirby, Christine Parmeter, Michelle Arnone, Robert A. Ortol, R.A.	U	A266-466	Optical properties of the Red Sea are characterized using the Coastal Zone Color Scanner (CZCS) for the period of January 1979 to December 1980. The ocean color imagery gathered by the CZCS is used to determine the diffuse attenuation coefficient, K, at 490 nm.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 03-97	Gas and Gas-Related Features in the Persian Gulf: A Study of Side-Scan Sonar Data	1998	100 p.	Haynes, Molly Baas, Peter	L		This document gives tutorial descriptions of the generation, form, and occurrence of gas-related features, especially pockmarks, in the Persian Gulf. Photographs of side-scan sonar records accompany the descriptions.
TN 1600-1-76	Annotated Bibliography of Oceanography	1976	48 p.	DeCarre, Suzanne E.	L		Contains a bibliography of technical oceanographic literature covering the fields of general oceanography, marine meteorology, marine biology, marine geology, ocean affairs, and ocean engineering, including significant contributions to the field of oceanography published between 1970-75.
TN 3005-1-78	Dissolved Trace Metals in Seawater	1978	21 p.	Pellenberg, Robert Leone, Gerald M.	L		The information presented in this report was obtained from oceanographic surveys of the USNS KANE in February and May and of the BIRDSEYE aircraft in May 1977. The surveys were made in the one degree quadrangle bordered by latitudes 36 and 37 degrees North and longitudes 18 and 19 degrees West, 600 miles west of Gibraltar where the ocean is reasonably "typical" and relatively uninfluenced by ocean fronts and advective complications.
TN 3005-2-78	Attempts to Measure Current Shear From Unanchored Ship	1978	31 p.	Carlson, Quick	L		The information presented in this report was obtained from oceanographic surveys of the USNS KANE in February and May 1977. These surveys were made in the one degree quadrangle bordered by latitudes 36 and 37 degrees North and longitudes 18 and 19 degrees West, 600 miles west of Gibraltar where the ocean is reasonably "typical" and relatively uninfluenced by ocean fronts and advective complications.
TN 3005-3-78	Bathyphotometric Measurements of Vertical Bioluminescence in the NE Atlantic During May 1977	1978	27 p.	Hall, Adron F. Staples, Robert F.	L		The information in this report was obtained from an oceanographic survey aboard the USNS KANE in May 1977. This survey was made in the one degree quadrangle bordered by latitudes 36 and 37 degrees North and longitudes 18 and 19 degrees West, 600 miles west of Gibraltar. Here the ocean is reasonably "typical" and relatively uninfluenced by ocean fronts and advective complications.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3005-4-78	Ocean Visibility Measurements During February & May 1977	1978	27 p.	Carlson, Quick McBride, Timothy L.	L		The information presented in this report was obtained from oceanographic surveys of the USNS KANE in February and May and of the BIRDSEYE Aircraft in May 1977. The surveys were made in the one degree quadrangle bordered by latitudes 36 and 37 degrees North and longitudes 18 and 19 degrees West, 600 miles west of Gibraltar where the ocean is reasonably "typical" and relatively uninfluenced by ocean fronts and advective complications.
TN 3005-5-78	Ocean Currents in the Pilot Survey Area	1978		Car, Martial	L		The information presented in this report was obtained from a moored current array planted by the USNS KANE in February and recovered in July 1977. These measurements were made in the one degree quadrangle bordered by latitudes 36 and 37 degrees North, and longitude 18 and 19 degrees West, 600 miles west of Gibraltar where the ocean is reasonably "typical" and relatively uninfluenced by ocean fronts and advective complications.
TN 3005-6-78	Conductivity, Temperature and Depth Measurements in the Eastern Atlantic	1978	37 p.	Peloquin, Robert A. Iredale, Harry Bolton, Richard	L	A066 255	The information presented in this report was obtained from oceanographic surveys on the USNS KANE in February and May 1977. A total of five pilot surveys was planned to establish baseline levels for a number of variables which include CTD.
TN 3007-1-77	Naval Oceanographic Office Data File Summary	1977	134 p.	Wilkerson, John C.	L		Includes a table of NAVOCEANO's unclassified major and minor data holdings, together with a data summary sheet, global distribution chart, and narrative description for each holding.
TN 3143-01-78	Aircraft Observations of the Thermocline Structure in the Central Equatorial Pacific Ocean	1978	15 p.	Kerling, Jeffrey L.	L		Describes data results obtained during a flight conducted on 9 March 1977 from Oahu, Hawaii, using AXBTs to examine the thermal structure along two 900-mile transects in the Central Pacific Ocean equatorial region.
TN 3143-02-78	Airborne Measurements of Short-Term Omnidirectional Ambient Noise in the Eastern North Atlantic Ocean During OCEAN SAFARI 77	1978	38 p.	Kerling, Jeffrey L. Pototsky, Gabriel J.	L		This report presents results of ambient noise measurements conducted in the Eastern North Atlantic Ocean during OCEAN SAFARI 77.
TN 3300-1-79	Catalog of Computer Program Files Used in the Hydrographic Department	1979	51 p.		L		This catalog is a summary of computer program abstracts, open shop numbers, dates of documentation and updates, categories, tape file-block numbers, and tape reel numbers of specialized programs used in the Hydrographic Department.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3302-1-74	Characteristics of 'Ancient' and 'Modern' Bioclastic Turbidites	1974	20 p.	Ensminger, H. Robert	L		Discusses the need for a greater amount of work to be done on bioclastic turbidites of all geologic ages, especially regarding (1) analysis of previously studied carbonates, (2) a more comprehensive analysis of those under study, and (3) more work in different regions of the world.
TN 3320-01-74	Temperature, Salinity, and Density of the World's Seas: Philippine Sea	1974	51 p.	Seim, Sandra E.	L		Discusses the subtropic and tropic regions of the Philippine Sea.
TN 3330-1-73	Index to the Informal Reports of the U.S. Naval Oceanographic Office	1973	69 p.	DeCarre, Suzanne E.	L		This index covers all unclassified informal reports issued by NAVOCEANO from 1960-1971. Informal reports made available in print form the final results of NAVOCEANO work that did not warrant formal publication or interim results of more important projects. Informal Reports (IR) were established in 1967. The series was terminated in 1971 and the last informal report was issued June 1971.
TN 3420-03-79	Nearshore Ecological Monitoring at the AUTEC Sites, Andros Island, Bahamas, Site 1: Rocky Intertidal Zone	1979	26 p.	Bloodsworth, W. James, Jr.	L	B058 578L	The results of a NAVOCEANO biological survey of the intertidal zone at Site 2 of the AUTEC from 10-14 August 1977 and 14-29 April 1978 are presented.
TN 3420-2-78	Environmental Support for SLMM Evaluations, October-December 1977	n.d.	35 p.	Huddell, Howard D.	L		Water depths, bottom type, surf location, and subsurface currents were determined in the vicinity of the Pacific Missile Range Facility at Kauai, Hawaii in support of tests of the Submarine Launched Mobile Mine. A new technique of installing current meters at a desired depth on a buoyed array is described.
TN 3430-001-78	Northwest Pacific Bottom Temperatures	1978	2 p.	Ostericher, Charles	L		This note demonstrates that it is a simple matter to determine bottom temperatures in the Northwest Pacific based on historical data, even though few in number.
TN 3430-002-78	Station Locations for Continuously Sampled Oceanographic Data	1978		Ostericher, Charles	L		This note shows the station locations for continuously sampled oceanographic data, primarily SVSTD, collected by the Physical Oceanography Branch of NAVOCEANO from June 1970 to July 1977.
TN 3431-01-77	Current Meter Data Report for Mona Passage	1977	41 p.	Bourkland, M. Dorey, S.	L	A048 775	This report summarizes current measurements made in Mona Passage in 1975.
TN 3431-01-78	Current Meter Data Report for Observations Between Iceland and Norway During 1975 and 1976	1978	193 p.	Dorey, Stephen W.	L		This report summarizes current measurements and SVSTD measurements made between Iceland and the coast of Norway by NAVOCEANO personnel during 1975 and 1976.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3431-05-78	Analyses of Current Meter and SV/STD Data From the Norwegian Sea	1978	94 p.	Teague, William J.	L		During the summers of 1975 and 1976, SV/STD measurements were made in conjunction with direct current measurements in the Norwegian Sea. Analysis of this data reveals a current structure that is highly variable and which is dominated by tidal and low-frequency oscillations. Methods include geostrophic, spectral, and tidal analyses.
TN 3431-2-74	Survey Results Cruise 343427, Indian Ocean, May-June 1974	1974	14 p.	Cocke, William T., III	L		Compares the sound velocity profiles to historical data and computes sound velocity profiles from a NAVOCEANO model for 16 stations that were occupied in the Indian Ocean during the SW Monsoon (May-June 1974).
TN 3431-2-79	CTD Measurements in the Eastern Caribbean Sea, August 1978	1979	24 p.	Teague, William J.	L		An oceanographic survey consisting principally of CTD and current meter measurements was initiated by NAVOCEANO during August of 1978 in the Eastern Caribbean Sea. This preliminary report presents the CTD data in its raw form as processed aboard the ship (USNS KANE) during the course of the operation.
TN 3431-3-75	Distribution of Deep Water Properties in the Northeast Atlantic Ocean	1975	19 p.	Countryman, Kenneth A.	L		Since June 1970, NAVOCEANO has occupied 229 near-bottom STD stations extending to depths greater than 2000m in the Northeast Atlantic. In this report these data are analyzed to describe the oceanographic features below 2000m east of the Mid-Atlantic Ridge between 26 N and 60 N. Particular emphasis is placed on abyssal temperatures.
TN 3431-3-79	Data Report: Near Surface Currents West of Gibraltar	1979	57 p.	von Zweck, Ortwin Hale, David A., Wahl, Robert J.	L		Current meter data from an array deployed by the USNS KANE on Cruise 343814 between 28 February and 16 March 1978, about 100 nm west of Gibraltar, are presented in this report.
TN 3431-5-75	Water Properties in the South China Sea and Gulf of Thailand During the Southwest Monsoon of 1969	1975	47 p.	Jarvela, Laurie E.	L		Describes results of the NAVOCEANO survey of the southern South China Sea and Gulf of Thailand during the southwest monsoon of 1969 which systematically sampled the entire region during a period of 3 months. The survey was conducted by the Marine Acoustical Service's vessel R/V F. V. HUNT during June-August to obtain geophysical and physical oceanographic data.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3432-01-78	Introduction to the Use and Interpretation of Side Scan Sonar	1978	48 p.	Ingram, Carey	L		The objective of this note is to provide the newcomer to side scan sonar methods of sea floor survey with the fundamentals required to install, tow, operate, and interpret records from side scan sonar systems. Sample records are included.
TN 3432-02-78	Sediment Interval Velocity Measurement From the USNS WILKES Surveys in the Indian Ocean, 1977-1978	1978	65 p.		L		The purpose of this report is to develop a routine method of analyzing wide angle bottom reflection data and provide preliminary analysis of WABR data obtained in the Indian Ocean by the USNS WILKES during 1977-78.
TN 3432-1-79	Relocation of Mississippi Fish Havens with Side Scan Sonar and Loran-C, a Preliminary Report	1979	9 p.	Ingram, Carey	L		This report presents side scan sonar records of five Liberty ship hulls, intentionally scuttled off the Mississippi Gulf Coast in 1975 to form two artificial fish havens.
TN 3433-1-79	Calibration and Testing of the Harris Narrow Beam Echo Sounder (NBES) Aboard USNS KANE	1979	39 p.	Johnson, William R.	L	C012 704	A bathymetric survey in September 1978 on the USNS KANE resulted in poor quality NBES analog data. In November 1978, after a thorough system calibration, the NBES was performance tested at sea over steep bottom slopes. These tests show that the NBES system on the USNS KANE can now produce acceptable bathymetric sounding data in both normal and group ping modes.
TN 3440-05-75	Environmental Data Report for Surveillance Aided Intercept Exercise	1975	89 p.		L		Reports on airborne acoustic environmental survey south of Bermuda. Using SUUS charges as sources and sonobuoys as receivers, bottom loss, transmission loss, and ambient noise data were obtained.
TN 3440-08-75	Bottom Loss Provinces of the Oceans of the Northern Hemisphere	1975	10 p.	Christensen, R. E. Boege, J. R.	L		Presents bottom loss province charts for the North Atlantic Ocean, the North Pacific Ocean, and the northern portion of the Indian Ocean.
TN 3440-11-76	Ambient Noise Measurements in Unimak Pass	1976	15 p.	Sproull, C. B., II Crane, M. L.	L		In July 1974, short-term ambient noise data were collected in Unimak Pass, Alaska, using two aircraft and a field of 30 expendable sonobuoys with hydrophones set at 60 ft.
TN 3440-12-75	Effects of the Bottom on ASW Systems (Chapter 5 of NOO RP 781)	1975	47 p.	Christensen, R. E. Ballard, A.	L	C009 905	This document discusses knowledge of sea-floor characteristics essential for understanding the problems involved in operating ASW systems which utilize the ocean floor as a medium for sound transmission. This publication is Chapter 5 from RP 781.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3440-12-76	Short-Term Omni-Directional Measurements of Ambient Noise in the North Atlantic Ocean	1976	23 p.	Barrett, R. L.	L	C012 669L	The results from six ambient noise stations are displayed as spectrum levels by populations and ensemble averages.
TN 3440-15-77	Oceanographic Observations of the Subarctic-Subtropical Transition Zone in the Central North Pacific	1978	35 p.	Senior, Charles W.	L		The oceanographic structure across the Subarctic-Subtropical Transition Zone in the central North Pacific is investigated.
TN 3440-17-76	Techniques and Procedures Used for MABS Deployment and Retrieval	1977	12 p.	Franç, Louis	L		An ambient noise data collection survey was conducted aboard USNS LYNCH (T-AGOR 7) in May 1976. Long-term ambient noise measurements were made using NUSC's moored acoustic buoy system (MABS). This report describes the techniques and procedures used to deploy and retrieve the bottom-moored system.
TN 3440-2-77	Glossary of Terms Frequently Used in Ocean Acoustics	1977	19 p.		L		This glossary attempts to provide the general user with definitions of technical terms and acronyms used by that portion of the oceanographic community involved with ocean acoustics and underwater sound propagation.
TN 3440-3-75	Seasonal Low Frequency Propagation Loss Classification Charts of the North Pacific and North Atlantic Oceans	1976	69 p.		L		The North Pacific and North Atlantic Oceans were divided into distinct sound speed provinces having low variability by season. The standard version of the FACT computer program was modified to include only two bottom loss curves at frequencies below 215 Hz. The program was executed for each regime and for each season. Areas which have similar predicted results were combined into similar propagation loss classification regions.
TN 3440-4-75	Bottom Loss Processing: A Comparison of the General Radio 1921 Real-Time Analyzer and the Hewlett Packard 5451B Fourier Analyzer	1975	13 p.	Tomei, Joli Crane, Michael L.	L		The General Radio 1921 Real-Time Analyzer, when used in transient analysis such as underwater explosive signals, gives a received level that is considerably higher when compared with other processing instrumentation.
TN 3440-4-77	Thermal and Sound Velocity Structures Across the Subarctic-Subtropical Transition Zone in the Western North Pacific	1977	19 p.	Senior, Charles W.	L		This report presents the principal findings of an oceanographic survey conducted by the USNS SILAS BENT within the polar frontal zone of the North Pacific.
TN 3440-5-78	Field Data Report: PAC-OCEANO SURVOPS Summer 1977, Phase I	1978			L		This note was prepared in response to CINPACFLT requirements for oceanographic data in continuing support of ASW/USW long-range surveillance systems.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3440-6-75	Refraction of Sound in the Sea Floor	1975	13 p.	Christensen, R. E. Geddes, W. H.	L	A049 021	A major mode of propagation of acoustic energy at low frequencies is a shallow refracted path through unconsolidated sediments of the sea floor.
TN 3440-6-76	Oceanographic Observations of the Subarctic-Subtropical Transition Zone in the Western North Pacific	1976	34 p.	Senior, Charles W.	L	A049 024	This report presents the principal findings of two oceanographic/geophysical surveys conducted by the USNS SILAS BENT within the polar frontal zone of the North Pacific. Transzonal temperature and sound velocity structures were determined and frontal features associated with the zone's boundaries were investigated.
TN 3440-6-77	Airborne Survey of the Thermal Structure Across the Subarctic-Subtropical Transition Zone in the Western North Pacific - July 1977	1979	19 p.	Tittle, Robert R. Kerling, Jeffrey L. Maturi, Eileen M.	L		The position and character of the Subarctic-Subtropical Transition Zone has an effect on the transmission of acoustic signals in the Western North Pacific. This report includes the results of an airborne thermal survey conducted during July 1977 to observe the spatial and temporal variation of this boundary between 160 and 170 degrees E, and to make synoptic observations to support concurrent shipboard operations across the Western North Pacific.
TN 3440-6-78	Field Data Report: PAC-OCEANO SURVOPS Summer 1977, Phase II	1978			L		This report presents the sound velocity vs. depth profiles from the 26 SVSTD stations that were occupied during Phase II of the survey conducted by the USNS SILAS BENT, 12-26 August 1977.
TN 3440-6-79	Airborne Environmental Survey in the Western North Atlantic During FOX II, June - July 1979	1979	45 p.	Barrett, R. L. Gotthardt, G. A. Petrick, K.	L		Temperature data from seven flights are presented as horizontal and vertical sections in an environmental survey utilizing AXBTs that was conducted in the western North Atlantic between 3 June and 2 July 1979.
TN 3440-7-75	Mathematical Model of Sound Velocity for the Indian Ocean	1975	14 p.		L	A048 758	Describes an objective procedure, developed by NAVOCEANO, for producing a three-dimensional mathematical model of sound velocity in the oceans. This model contains the necessary statistical characteristics to form the basis for acoustic province delineation.
TN 3440-7-76	Estimated Percentages of Ocean Areas for Which the Deep Sound Channel Axis is Less than Certain Specified Depths	1976	11 p.	Tapager, James R. D. Babis, William A.	L	C012 731	The percentages of selected areas in which the deep sound channel axis is less than 1000, 1300, 1600, 2000, 2500, 3000, and 4000 ft based on contour bathymetric charts is given for 9 areas. Mean annual axial depths are given for these areas, which include the Mediterranean and Arabian Seas, and parts of the North Atlantic and Pacific Oceans.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3440-7-77	Airborne Survey of the Thermal Structure in the Eastern North Pacific Conducted During August and September 1977	1978	34 p.	Tittle, Robert R., Jr.	L		This report presents results of an airborne AXBT survey in the Eastern North Pacific Ocean conducted during August and September 1977. The data were gathered to support concurrent shipboard operations rather than as a survey of specific environmental features.
TN 3440-7-78	Field Data Report: PAC-OCEANO SURVOPS Summer 1977, Phase II	1978			L		This note was prepared in response to CINCPACFLT requirements for oceanographic data in continuing support of ASW/USSW long-range surveillance systems.
TN 3440-7-79	Airborne Oceanographic Data Collected From 3 June to 2 July 1979 in Support of FOX II	1979	314 p.	Petrick, K. Barrett, R. L. Gotthardt, G. A.	L		This report presents the results of temperature measurements made during eleven airborne oceanographic surveys conducted within the Gulf Stream region west of Bermuda from 3 June to 2 July 1979.
TN 3440-8-79	Temperature and Sound Velocity Profiles Derived From SXBT Sections Through the Gulf Stream 26 and 29-30 June 1979	1979	61 p.	Petrick, K. Gotthardt, G. A.	L		This report presents the results of thermal measurements along with calculated sound velocity profiles made during an environmental survey conducted aboard the USNS LYNCH in the Gulf Stream region, using shipboard XBTs on 26 June and 29-30 June 1979 in support of NAVOCEANO FOX-II exercise.
TN 3440-9-75	Short-Term Omni-Directional Measurements of Ambient Noise in the Northern Indian Ocean	1975	24 p.	Crane, M. L. Sproull, C. B., II Starke, K. V.	L		Presents results from 9 ambient noise stations displayed in spectrum level and ensemble averages. These data were obtained using an aircraft and sonobuoys in May and June 1974 in the Indian Ocean.
TN 3440-9-77	Airborne Ambient Noise Survey Techniques Employing Sonobuoys	1978	31 p.	Sproull, Charles B., II	L		This note discusses various types of equipment and techniques used in airborne collection of ambient noise data before, during, and after a survey.
TN 3440-9-78	Modeling the Impact of Oceanographic Variability on Acoustic Propagation in the Western North Pacific	1978	42 p.	D'Amico, Angela	L		NAVOCEANO conducted extensive oceanographic and acoustic survey operations in the western North Pacific during 1977. Objectives of this survey included the determination of the thermohaline and sound velocity structures which characterize this subarctic-subtropical transition zone as well as the characterization of the fronts which delineate the boundaries of this region.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3440-C4-76	Bottom Loss Measurements in the East China/North Philippine Seas	1976	121 p.		L	C012 734L	The primary acoustic data from 49 stations consisting of bottom loss and propagation loss are presented in tabular and graphic formats without interpretation. Bathymetry along the shot run and sound velocity of the water column for each acoustic station are included.
TN 3510-2-73	Ocean Surveys Information System	1973	25 p.	Collier, Martin L.	L		This note describes the historical background, general system, current operations, and future plans of the Ocean Survey Information System.
TN 3510-3-73	Technological Forecasting for Marine Resources Management	1973	74 p.	Collier, Martin L.	L		Discusses the necessity of acquiring technological forecasting information for analysis and use before the large-scale commitment of scarce resources.
TN 3510-5-74	Geophysical Seamount Investigation: a Preliminary Report on the Use of Gravity Vertical Deflection Anomalies in Locating Seamounts Hazardous to Navigation	1974	52 p.	Halliwell, George R., Jr.	L		This report examines the feasibility of using geophysical data to locate seamounts hazardous to navigation. A preliminary study was performed on the use of gravity vertical deflection anomalies to locate hazards. A method was developed to calculate the probability of the existence of a hazardous seamount near any vertical deflection anomaly.
TN 3510-6-74	Hydrographic Survey Systems for the 1980's: a Technological Forecast	1974	13 p.	Collier, Martin L.	L		Technological forecasting provides alternatives that may be selected for development, utilizing new technology to reduce costs and improve products. The forecasts facilitate communication and cooperation among those engaged in survey system planning and allocation of dollars, ships, men, and equipment.
TN 3510-7-74	Things You Always Wanted to Know About Technological Forecasting But Did Not Ask	1974	87 p.	Collier, Martin L.	L		The text-graphic information provides background on technological forecasting for potential users. It shows how forecasts may be used by scientists, engineers, and planners and identifies rapidly changing technologies with potential applications and impacts for oceanography and hydrography.
TN 3700-010-76	SHAREM XXI Environmental/Acoustic Outlook	1976			L		Environmental/acoustic conditions expected during the SHAREM XXI Exercise are described in this report.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3700-011-76	Exercise OPEN GATE Environmental/ Acoustic Reconstruction	1976	142 p.	L			The reconstruction of environmental/acoustic conditions present during OPEN GATE, from 27 April to 3 May 1976, was based on 15 shipboard expendable bathythermographs (BTs) collected by exercise participants and 94 AN/SSQ-36 sonobuoy (AXBT) grams recorded aboard an Air Development Squadron-Eight RP3-A during flights on 30 April and 1 May 1976.
TN 3700-013-77	RIMPAC 77 Environmental/Acoustic Quicklook	1977		L			Twenty-one naval ships reported BT messages within the exercise area during RIMPAC 77. It is estimated that well over 500 BT messages were transmitted, making this the largest exercise environmental data collection effort.
TN 3700-014-77	Operation CLEAN SWEEP Environmental/Acoustic Reconstruction	1977		L			Reconstruction of environmental and acoustic conditions present during Phases II and III of Operation CLEAN SWEEP were based on data obtained during RP-3A aircraft flights on 8, 10, and 24 March 1977.
TN 3700-015-77	RIMPAC 77 Environmental/Acoustic Reconstruction	1977		L			The reconstruction of environmental/ acoustic conditions present during Phase II and III of RIMPAC 77. A review of data provided by exercise participants indicates that many more BTs than were used for this reconstruction were probably collected.
TN 3700-018-77	Oceanographic and Acoustic Characteristics of a Weak Sargasso Sea Front Observed Southwest of Bermuda During March 1977	1977	13 p.	Krone, Stephen M.	L		Weak and seasonal thermal fronts between the Bahamas and Bermuda, in the southern Sargasso Sea. During an aerial survey southwest of Bermuda in March 1977, in support of Operation CLEAN SWEEP, a segment of one of these fronts was observed to extend from 32 degrees N, 73 degrees W to 29 degrees W.
TN 3700-019-77	OCEAN SAFARI 77 Environmental/Acoustic Reconstruction	1977	129 p.		L		The environmental/acoustic reconstruction of OCEAN SAFARI 77, 17 to 29 October 1977, was based on data collected during six RP-3A aircraft flights conducted within the exercise area.
TN 3700-020-77	OCEAN SAFARI 77 COMBINED EFFORT Environmental/Acoustic Reconstruction	1977	110 p.		L		The reconstruction of environmental and acoustic conditions present during the OCEAN SAFARI 77 COMBINED EFFORT, conducted from 30 September to 9 October 1977, was accomplished using 140 AN/SSQ-36 sonobuoy (BT) observations, airborne radiation thermometer data, and ambient noise measurements collected from an RP-3A aircraft during the exercise.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3700-05-76	SUBASWEX 1 - 76 Environmental/Acoustic Synoptic Summary	1976	76 p.		L		An airborne radiation thermometer (ART) and ANISSQ-36 bathythermograph (BT) survey was conducted by NAVOCEANO on 6 February 1976 in preparation for SUBASWEX 1-76, scheduled by COMSUBDEVGRU TWO from 12 through 27 February 1976.
TN 3700-06-76	SUBASWEX 1 - 76 Environmental/Acoustic Reconstruction	1976	64 p.		L		Reconstruction of environmental and acoustic conditions present during SUBASWEX 1-76, conducted from 12 through 27 February 1976, has been based on research aircraft surveys on 14 and 20 February and VHRR data from the NOAA-4 satellite.
TN 3700-07-76	CTF - 177/FLEETEX 1 - 76 Environmental/Acoustic 'Quick - Look'	1976	21 p.		L		A "Quick-Look" at environmental/acoustic conditions present during PHASE 3 of CTF 177/FLEETEX 1-76, VALIANT HERITAGE. Oceanographic analyses were based on 22 shipboard expendable bathythermographs (BTs) collected from the USS ALBERT DAVID, and 51 BT message-log entries from USS ENTERPRISE and USS BRONSTEIN.
TN 3700-08-76	CTF - 177/FLEETEX 1 - 76 Environmental/Acoustic Reconstruction	1976	127 p.		L		Reconstruction of environmental and acoustic conditions present within the VALIANT HERITAGE PHASE 3 OPAREA were based on 141 BT observations.
TN 3700-09-76	Exercise OPEN GATE Environmental/Acoustic "Quick - Look"	1976			L		This report is a "Quick Look" at environmental/acoustic conditions present during OPEN GATE, 27 April to 3 May 1976.
TN 3700-44-76	Census of Rings in the Gulf Stream System	1976	10 p.	Cheney, Robert E.	L	A048 728	In order to provide environmental data for EDDY SUBEX 75, an acoustic experiment carried out by NAVOCEANO, a ship survey was conducted between 22 June and 9 July 1975. Thermal features in the Sargasso Sea and the Gulf Stream system northwest of Bermuda were mapped using 760-m XBTS and deep STD stations.
TN 3700-45-76	Environmental Analysis SIX GUN, 27 September - 9 October 1975	1976	13 p.	Fisher, A., Jr. Perchal, R. J.	L		A task group comprised of a guided missile cruiser and accompanying escorts transmitted from the Virginia Capes area to the Bay of Biscay during the period 27 September to 9 October 1976. An exercise designated SIX GUN was conducted enroute under the tactical command of Commander, Task Group 21.6, aboard USS ALBANY (CG-10).

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3700-48-76	Application of VHRR-IR Satellite Imagery to Qualitatively Estimate Sub-Surface Thermal Structure	1976	18 p.	Polotsky, G.	L		The Very High Resolution Radiometer Infrared (VHRR-IR) satellite sensor has provided oceanographers with an invaluable tool for studying the oceanic environment. This paper evaluated the frequency at which the Shelf-Slope Water boundary, North and South Wall of the Gulf Stream, and anticyclonic eddies could be monitored and tracked throughout the annual cycle.
TN 3700-51-76	Selection of Water Mass History from Bathymeterogram Characteristics	1976		Fisher, Alvan Jr.	L		Discusses a historical data file based on the near-surface water masses of the North Atlantic Ocean. Evaluation of the water mass file using salinity-temperature-depth (STD) data shows that it is superior to the file presently used in the Integrated Carrier Antisubmarine Warfare Prediction System (ICAPS).
TN 3700-52-76	Comparison of Gulf Stream Edges Detected by Airborne Radiation Thermometer and VHRR-IR Satellite Imagery During SUBASWEX 1-76	1976	21 p.	Perchal, R. J.	L		Locations of the North and South Walls of the Gulf Stream, discerned on VHRR-IR satellite imagery by Fleet Weather Facility (FWF), Suitland and NAVOCEANO during SUBASWEX 1-76, were compared to their positions as indicated by the maximum surface thermal gradient detected by an airborne radiation thermometer (ART).
TN 3700-53-76	Operation of Integrated Carrier ASW Prediction System (ICAPS) Programs on the UNIVAC 1108	1976		Holt, Robert M.	L		Discusses major changes in the UNIVAC 1108 version of the ICAPS program library, made to maintain compatibility with Fleet Numerical Weather Central (FNWC) products and to increase the effectiveness and efficiency of the production programs.
TN 3700-54-76	Evaluation of Submarine Expendable Bathymeterograph (SSXBT) Data Collected During SUBASWEX 1-76	1976	14 p.	Lewando, A. G., Jr.	L		Submarine expendable bathythermograph (SSXBT) records obtained during SUBASWEX 1-76 were reviewed to determine tactical advantages when using this system.
TN 3700-55-76	Acoustic Ray Tracing and Three-Dimensional Propagation Loss Representation in the Gulf Stream Region	1977	21 p.	Khedouri, E. Gaborski, P.	L	A128 514	Acoustic ray traces and intensities for fixed and variable receiver depths were calculated for three cross sections in the Gulf Stream region using AXBT temperature profiles and historical sound velocity data.
TN 3700-56-76	Distribution and Classification of Ocean Fronts	1976	10 p.	Cheney, R. E. Winfrey, D. E.	L	A048 733	Ocean fronts occur at boundaries between water masses with differing characteristics. They are narrow regions of rapidly changing properties. This report provides locations of many of the world's fronts and classifies them according to their acoustic significance.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3700-57-77	User's Manual for the Integrated Carrier ASW Prediction System (ICAPS)	1977	19 p.	Pennylegion, John C.	L		The ICAPS program library has been adapted to operate on the IBM 360/67 computer.
TN 3700-58-77	Historical Limits of the Northern Edge of the Gulf Stream	1977		Fisher, Alvan, Jr.	L	A048 776	This note examines ocean station data in the western North Atlantic in the rectangle 30 degrees to 40 degrees N, 40 degrees to 75 degrees W and delineates the limits of the northern edge of the Gulf Stream.
TN 3700-60-77	Environmental Survey of the Gulf Stream Frontal System, January 1977	1977	10 p.	Potocsky, G. Blumenthal, B.	L		An extensive airborne environmental survey was conducted by the Naval Oceanographic Office in January 1977 in support of a Fleet exercise. The Gulf Stream was tracked from Cape Hatteras, NC eastward to 54 degrees W using a precision radiation thermometer and airborne expendable bathythermographs.
TN 3700-61-77	Synoptic Observations of the Oceanic Frontal System East of Japan	1977	17 p.	Cheney, Robert E.	L	A048 731	A series of seven flights was conducted in October 1976 to study the system of oceanic fronts east of Japan.
TN 3700-62-77	TEAMWORK 76 Oceanographic Data Analysis	1977	10 p.	Doblar, R.	L		Between 9 and 14 September 1976, NAVOCEANO participated in TEAMWORK 76, a NATO exercise held quadrennially in the Eastern North Atlantic.
TN 3700-63-77	Exercise LOCKED GATE Environmental Support	1977	11 p.	Potocsky, G.	L		This report gives a description of the environmental conditions observed prior to commencement of the SACLANT exercise LOCKED GATE, conducted between 31 January and 9 February 1977.
TN 3700-65-77	Pattern Analysis for Automatic Location of Oceanic Fronts in Digital Satellite Imagery	1977	67 p.	Gerson, Donald J. Gaborski, Patricia	L		A numerical method for automated detection of oceanic fronts was developed using digital infrared imagery from the GOES satellite.
TN 3700-66-77	Aerial Observations of Two Gulf Stream Rings in the Western North Atlantic During March 1977	1977	7 p.	Doblar, R.	L		Describes the findings of three aerial surveys conducted in the Gulf Stream region northwest of Bermuda in March 1977.
TN 3700-67-77	Variability of Oceanographic Conditions at Ocean Weather Stations in the North Atlantic and North Pacific Oceans	1977	13 p.	Beatty, William H., III	L	A048 730	Seasonal mean salinity and temperature values and their variability from the mean were determined for 12 ocean weather stations in the North Atlantic and North Pacific Oceans.
TN 3700-68-77	Harmonic Analysis and Prediction of Tidal Heights and Currents Using the UNIVAC 1108 Computer	1977	20 p.	Beatty, William H., III	L		A UNIVAC 1108 FORTRAN program obtained from the Naval Ocean Research and Development Activity (NORDA) was placed in the UNIVAC 1108 program file. The program performed a harmonic analysis and predicted tidal heights and currents and digitized analog tide gage records taken at any geographical location.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3700-69-77	Aerial Observations of Oceanic Fronts in the Western Mediterranean Sea	1977		Cheney, Robert E.	L		The western Mediterranean Sea and Gulf of Cadiz were surveyed during the period 30 April to 19 May 1976 to study the distribution and physical characteristics of oceanic fronts.
TN 3700-70-77	Analysis and Recommendation of Software Conversion from NOVA System to OUTLAW SHARK (SOCC) System	1977	19 p.	Bernard, Landry J., III	L		Alternatives for converting all software from the NOVA system to the OUTLAW SHARK system are analyzed. Characteristics of the NOVA computer system are compared to the OUTLAW SHARK ROM computer system. Results, conclusions, and recommendations are delineated.
TN 3700-73-77	Recent Observations of the Alboran Sea Front	1977	22 p.	Cheney, Robert E.	L	A128 544	Four sets of observations were obtained in the western Mediterranean Sea during November 1976 to April 1977 in order to study the structure and seasonal variability of the Alboran Sea Front.
TN 3700-75-77	Guide to Common Shipboard Expendable Bathymograph (SXBT) Recording Malfunctions	1977	46 p.	Kroner, Stephen M. Blumenthal, Barry P.	L		The Sippican SXBT system is used to measure vertical temperature in the upper few hundred meters of the ocean. Erroneous traces are presented to describe malfunctions and adjustments to rectify the more common problems which might occur while operating the Sippican SXBT system.
TN 3700-76-78	Detailed Observations of the Kuroshio and Its Eddies - October 1976	1978	31 p.	Blumenthal, Barry P. Cheney, Robert E.	U	A128 542	Two Kuroshio eddies—one cyclonic and one anticyclonic—were located east of Japan during October 1976 and were the subject of this detailed ship study.
TN 3700-77-78	Validation Report: FACT 9D on the UNIVAC 1108	1978	16 p.	Fusillo, Lawrence J.	L		The Fast Asymptotic Coherent Transmission (FACT) program, the passive propagation loss (PL) computer model used in the Integrated Command ASW Prediction System (ICAPS), is the basic input to tactical computer programs which require PL information. In order to verify the ICAPS FACT Program on the UNIVAC 1108, a set of program acceptance runs generated at the Naval Ship Research and Development Center on the CDC 6600 computer was used as a reference standard.
TN 3700-78-78	Tracking a Kuroshio Cold Ring with a Free-Drifting Surface Buoy	1978	8 p.	Cheney, Robert E.	L		Discusses observations of a cyclonic Kuroshio ring southeast of Japan that was observed over a 50-day period in 1976 by XBT, STD, and a free-drifting surface buoy.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3700-79-78	Oceanographic Observations in the Western North Atlantic During FOX I, May 1978	1978		Cheney, Robert E.	L		Discusses extensive oceanographic observations gathered in the Sargasso Sea, Gulf Stream, and Slope Water regions northwest of Bermuda during May 1978. The purpose was to provide a complete record of environmental conditions during FOX I, a multiplatform acoustic experiment.
TN 3700-80-78	Airborne Environmental Survey in the Western North Atlantic During FOX I, May 1978	1979	31 p.	Potocky, Gabriel J.	L		Discusses an extensive airborne environmental survey that was conducted in the Sargasso Sea, Gulf Stream, and Slope Water regions of the western North Atlantic during May 1978. The purpose of the survey was to locate any eddies present within the area 32 to 41 degrees North and 63 to 73 degrees West.
TN 3700-81-78	Aerial Observations of Three Cyclonic Gulf Stream Rings - November 1978	1978	6 p.	Blumenthal, Barry P.	L		Discusses three cyclonic Gulf Stream rings that were surveyed from a NAVOCEANO aircraft during November 1978 to define their location and physical extent.
TN 3700-82-79	Description of ICAPS Environmental Data Structure	1979	12 p.	Lever, John	L		This note is a description of the file structure of the historical watermass atlases maintained for the Integrated Command ASW Prediction System (ICAPS).
TN 3700-82-79	Alboran Sea 1977: Physical Characteristics and Atmospheric Induced Variations of the Oceanic Frontal System	1979	24 p.	Cheney, Robert Doblar, Randy A.	L		This report contains a physical description of the Alboran Sea frontal system during October 1977.
TN 3700-83-79	Automated System for Digitizing Expendable Bathymograph Traces	1979	16 p.	Williams, S. P.	L		An automated system for digitizing ship expendable bathymograph traces is described. Software is fully documented with definition of variables, flow chart, and program listings. Important system features are summarized and a step-by-step instruction is provided for user reference.
TN 3700-84-79	Evaluation of the Integrated Command ASW Prediction System (ICAPS) Aboard the USS SARATOGA	1979	7 p.	Heaton, Jeffrey S.	L		This note briefly reviews the ICAPS objectives and products, and evaluates the use of the ICAPS on the USS SARATOGA.
TN 3700-86-79	Brock's Parabolic Equation Transmission Loss Model: Description and Guide for Remote Execution	1979	25 p.	Gold, Barry A. Vigliotti, Vincent	L		The Parabolic Equation Transmission Loss Model is described for an operational user. This model is a range-dependent wave model which accepts as input multiple sound velocity profiles and varying bottom depths. The output consists of plots of transmission loss as a function of depth and range, plus plots of bathymetry and sound velocity profiles.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 3700-87-79	Effects of Short-Term Meteorological Modifications to the Alboran Sea Frontal System, January 1979	1979	15 p.	O'Connor, Daniel J. Doblar, Randy A.	L		The Alboran Sea Front is caused by a swift jet of Atlantic Surface Water flowing through the Strait of Gibraltar. In October 1977, Cheney and Doblar (1979) noted a significant shift in the position of the feature, during a 10-day period, which appears to have been caused by changes in atmospheric pressure and gradient winds. Synoptic oceanographic and meteorological observations taken on 24 and 26 January 1979 provided further insight to short-term variations in the Alboran Sea frontal system, presumably caused by meteorological fluctuations.
TN 3700-88-79	Augmentation of CV-ASWMM Fast Time Analysis System (FTAS) with the Integrated Command ASW Prediction System (ICAPS) Configuration Product Baseline	1979	14 p.	Bernard, Landry J. III	L		ICAPS hardware consists of commercially available components which, when linked to the FTAS NOVA computer, provide ICAPS on-scene prediction capability. ICAPS software presently includes ten programs yielding environmental, acoustic, and tactical products. This note describes the ICAPS hardware and software configurations and itemizes the documents which detail operation, analysis, and maintenance.
TN 3700-89-79	Operating and Maintenance Procedures for the Integrated Command ASW Prediction System (ICAPS) Hardware	1980	33 p.		L		This note presents the procedures for system synthesis, operation, and maintenance while featuring fault isolation diagrams, system diagnostic software, and maintenance requirement cards of ICAPS hardware.
TN 3900-52-76	Comparison of Gulf Stream Edges Detected by Airborne Radiation Thermometer and VHRR-IR Satellite Imagery During SUBASWEX 1-76	1976		Perchal, R.J.	L		Locations of the North and South Walls of the Gulf Stream, discerned on VHRR-IR satellite imagery by Fleet Weather Facility, Suitland and NAVOCEANO during SUBASWEX 1-76, were compared to their positions as indicated by the maximum surface thermal gradients detected by an airborne radiation thermometer (ART).
TN 5000-1-80	Catalog of Scientific or Technical Computer Programs	1980	40 p.	Holzwessig, A. C.	L		This catalog is a summary of scientific or technical computer programs, abstracts, authors, computers, and related information.
TN 6100-1-84	Narrow-Beam Automated Test Equipment (NATE)	1985	5 p.	Landrum, Gerald W.	U		Describes the Harris Narrow-Beam Echo Sounding System (NBES), a high-resolution, deep-sea sonar for measuring water depths to 600 fathoms. A computer-controlled test system for NBES has been designed, fabricated, and field tested. This system, the Narrow-Beam Automated Test Equipment (NATE), will allow rapid alignment, troubleshooting, and real-time monitoring of NBES.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 6110-03-74	Current Meter Data Report for a Region of the Northeastern Pacific Ocean	1974		Guthrie, R. Burns, D. Smith, O.	L		Current measurements were made at 17 depths at 3 locations (5 meters at one location and 6 meters each at 2 locations) in the Northeastern Pacific Ocean. Speeds were generally low - 9% of the observed speeds were between 0 and 6 cm/sec. Data are presented in the form of histograms, tabulations, and plots.
TN 6110-2-75	Results of Current Observations WILKES Norwegian Sea Operations (Arrays 1 and 2)	1975	15 p.	Smith, Otis R.	L	A048 726	This report gives current data collected at two locations in the Norwegian Sea during July-September 1974. Data are reported in cumulative speed distribution graphs and graphs of vector averages.
TN 6110-3-75	Oceanographic Design Conditions for Diamond Shoals Light Tower	1975		Earle, M.D.	L		Extreme wave, storm surge, and storm current conditions were determined for the U.S. Coast Guard Diamond Shoals Light Tower, Cape Hatteras, North Carolina. The oceanographic conditions generated by 15 hurricanes and 30 storms which affected Cape Hatteras during the period 1944-1973 were hindcast with computer models. Wave, storm surge, and storm current conditions are provided for each severe storm and hurricane and as a function of recurrence interval.
TN 6110-4-73	Environmental Investigation of a Dredge Spoil Disposal Site Near Mayport, Florida	1973	135 p.		L		NAVOCEANO conducted a multiphase environmental monitoring program in a disposal site off the mouth of the St. Johns River, Florida, to evaluate the environmental effects of the disposal of 571,000 cubic yards of material dredged from the Naval Station, Mayport, Florida. Phases 1, 2, and 3 were conducted in April 1972, September 1972, and April 1973, respectively.
TN 6110-5-73	Geophysical Investigation of Ulsan Bay, Pusan Harbor and Chinhae Bay, Republic of Korea	1973	83 p.	Stiles, Newell T. Rooney, Richard F.	L		The thickness and extent of the fine-grained sediment cover of Ulsan Bay, Pusan Harbor, and Chinhae Bay have been delineated and mapped. These areas are located along the southeastern coastline of the Republic of Korea. The seismic system used in this investigation, nicknamed a "Mud Penetrator," provides a continuous profile record of the water column and bottom morphology, and where fine-grained sediments are encountered, a record of the subbottom structure.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 6110-5-75	Investigation of the Elutriate Test	1975	26 p.	O'Connor, Thomas P.	L		The criterion for defining the state of pollution of sediments at most Naval facilities is the elutriate test. The test is described and observations of the test's results being affected by the particle size distribution of the sediment, the pH of sediment-sea water suspensions and the precipitation of ferric hydroxide are outlined.
TN 6110-6-73	Observations of Wave Spectra in the Caribbean Sea with an Airborne Laser	1973	15 p.	DeLeonibus, P. S. Sheil, R. J.	L		One-dimensional wave number spectra were estimated with an airborne laser flying upwind and downwind over the Caribbean Sea region west of Jamaica.
TN 6110-6-75	Detection of Oceanic Thermal Fronts off Korea with the Defense Meteorological Satellite System	1975		Huh, O.K.	L		The scanning sensors of the Defense Meteorological Satellite System (DMSS) have provided excellent thermal infrared and visual range imagery of the oceanic regions near the Korean Peninsula. These data were acquired by direct readout from the two polar orbiting satellites which passed over the region four times daily. A critique of the oceanographic capabilities of the system is provided as a guide to potential users.
TN 6110-8-75	Oceanographic Design Conditions for Offshore Light Towers	1975		Earle, M.D. Burns, D.A.	L	A049 023	Extreme wave, storm surge, and storm current conditions were determined at four U.S. Coast Guard Light Towers: Frying Pan Shoals, Chesapeake, Ambrose, and Buzzards Bay. Oceanographic conditions generated by hurricanes and severe storms which affected the Mid-Atlantic continental shelf during the period 1944-1973 were hindcast with computer models. Wave, storm surge, and storm current conditions are provided for each severe storm and hurricane and as a function of recurrence interval.
TN 6120-01-75	Summary of Current Observations Between Iceland and Norway	1975	128 p.	Dorey, Stephen W.	L		This report is a summary of direct current measurements between Iceland and Norway. The data summarized were obtained from tables published by Mosby in 1962 and 1963, from the International Iceland-Faeroe Ridge Expedition in 1960 as reported by Joseph in 1967, and from three arrays implanted on the Iceland-Faeroe Ridge by the Naval Ordnance Laboratory in 1972.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 6120-1-76	Geology and Geophysics of the Tagus Basin	1976	37 p.	Ruddiman, W. F. Glover, L. K.	L		Sedimentary fill in the Tagus Basin, west of the Iberian Peninsula in the eastern North Atlantic, is analyzed, with particular attention given to two acoustic stations studied by NAVOCEANO. The study includes sediment type and source, deposition mechanisms and rates, and sound velocity structure for acoustic purposes. The analysis is based on core descriptions and laboratory analyses (grain size, wet bulk density, sound velocity), 3.5 kHz seismic records, JOIDES Deep-Sea Drilling reports in nearby areas, and general scientific literature of the region.
TN 6130-09-73	Bottom Reflection Loss Measurements Made From Aircraft in the Western Mediterranean Sea	1973	35 p.	Davis, Edward E. O'Neill, Charles J.	L		Discusses the results of bottom loss measurements conducted in the western basin of the Mediterranean Sea with aircraft using modified sonobuoys and explosive sound sources.
TN 6130-1-74	Omnidirectional Ambient Noise Measurements Made From an Aircraft in the Caribbean Sea	1974	144 p.	Davis, Edward E.	L		Describes omnidirectional ambient noise measurements made in the Cayman Trough and Yucatan Basin during December 1972. All measurements were made from an aircraft with calibrated AN/SSQ-57A sonobuoys.
TN 6130-2-74	Distribution of Positive and Negative Surface Mixed Layer Sound Velocity Gradients in the Northeast Atlantic	1974	30 p.	Hunger, A. A.	L		Discusses the results of a pilot study conducted to investigate the utility of using historical XBT data to determine the percent of occurrence and seasonal and areal variations of positive and negative sound velocity gradients of the surface mixed layer.
TN 6130-2-76	Pilot Study for Underwater Radiated Noise Measurements of Merchant Ships From Aircraft	1975	68 p.				Presents the results of a pilot study conducted to demonstrate the feasibility of conducting measurements from aircraft to determine radiated noise levels of transiting merchant ships. Preliminary measurements were conducted on 12 merchant ships by using a triangular-shaped sonobuoy pattern consisting of six standard AN/SSQ-57A sonobuoys deployed from an aircraft. Techniques were developed to reconstruct the position of each sonobuoy in the pattern and to determine the track of the target ship through the pattern. The report discusses the data collection and processing techniques utilized in detail and presents measured radiated noise levels as a function of frequency and aspect for eight of the ships measured.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 6130-3-73	Preliminary Empirical Model of Low-Frequency Under-Ice Reflection Loss	1973	23 p.	Diachok, Orest I.	L		Discusses a set of coincident measurements of low-frequency under-ice transmission loss and sea ice ridge characteristics that was made in the Arctic Ocean using airborne acoustic and environmental remote sensing techniques.
TN 6130-3-74	Improved Method of Explosive-Source Volume Reverberation Data Collection and Analysis	1974	9 p.	Love, Richard H.	L		Describes an improved omnidirectional volume reverberation data collection and analysis technique which employs an inexpensive, easy to deploy system consisting of an omnidirectional hydrophone and a surface-venting explosive source. The data collected are analyzed to provide information on the depth dependence of volume reverberation over wide frequency bands.
TN 6130-3-76	Synthetic Deconvolution of Explosive Source Acoustic Signals in Colored Noise	1976	17 p.	Dicus, Ronald L.	L		A method is described for synthesizing acoustic signals from explosive charges and compensating for small variations of detonation depth.
TN 6130-4-73	Statistical Correlation of Physical Properties and Sound Velocity in Sediments	1973	42 p.	Anderson, Rockne S.	L		Discusses a systematic stepwise regression analysis used to determine the statistical correlation between sound velocity and physical properties measured in the laboratory on sediments from 82 cores taken in the Atlantic, Pacific, and Indian Oceans, and the Mediterranean Sea.
TN 6130-4-74	Effects of Sea Ice Ridge Characteristics on Under-Ice Reflection Loss in Arctic/Subarctic Waters	1974	18 p.	Diachok, O. I.	L		Discusses results of measurements made of long-range transmission loss and related environmental parameters made in relatively deep ice-covered waters using airborne acoustic and environmental remote sensing techniques.
TN 6130-4-76	Preliminary Investigations of the Ocean Bottom Impulse Response at Low Frequencies	1976	32 p.	Dicus, Ronald L.	L		Impulse responses and bottom loss functions at low frequencies were measured at grazing angles from 4.5 to 82 degrees. When band-pass filtered from 40-90 Hz, the impulse responses consisted of only two arrivals. First arrivals corresponded to the water-sediment interface reflection, and second arrivals were attributed to sound refracted through the ocean bottom.
TN 6130-5-74	Underwater Battery Operated Timer Unit (UBTU)	1974	9 p.	Taylor, James O.	L		Discusses the design and development of an Underwater Battery Timer Unit (UBTU) which makes possible automatic, sequential biological sampling with a non-electric towing cable.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 6130-5-75	Simple Geometrical/Statistical Model of Sea Ice Ridges	1975	14 p.	Diachok, Orest I.	L		A simple geometrical/statistical model of sea ice ridges has been developed which appears to be a reasonable idealization of measurements of ridge characteristics and is consistent with isostatic considerations.
TN 6130-6-73	Spatial Variability of Underwater Ambient Noise at the Arctic Ice-Water Boundary	1973	11 p.	Diachok, O. I. Winokur, R. S.	L		Discusses quasi-synoptic measurements that were made to determine the spatial variability of ambient noise at the Arctic ice-water boundary over a frequency range from 100 to 1000 Hz.
TN 6130-6-74	Predictions of Volume Scattering Strengths from Biological Trawl Data	1974	22 p.	Love, Richard H.	L		Describes a volume reverberation model which utilizes fish distribution data that was developed to permit quantitative predictions of depth dependent scattering strengths. The model was evaluated by using coincident acoustic volume scattering measurements and biological trawl data collected in the Mediterranean Sea.
TN 6130-8-74	Acoustic and Environmental Knowledge for Biological False Target Prediction	1974	43 p.	Love, Richard H. Winokur, Robert S. Levenson, Coleman	L		The purpose of this document is to review the current state of knowledge of acoustic and environmental factors and models which are essential for predicting the extent of biological false target threats to active sonar system performance.
TN 6130-8-75	Volume Reverberation in the Mediterranean Sea	1975	95 p.	Love, Richard H.	L		Describes volume reverberation measurements that were conducted in the Mediterranean Sea during February and March 1972. Acoustic data were collected at five stations utilizing explosive sources and an omni-directional hydrophone.
TN 6140-1-75	Analysis of Sea Ice Bottomside Data in the Denmark Strait	1975		Westhall, V.H. Li, H.	L		A statistical analysis using a digital computer has been made of approximately 170-km of submarine under-ice profile data collected in the Denmark Strait area. This analysis yields a scheme of ice classification in the Marginal Sea Ice Zone by using numerical filter techniques.
TN 6140-2-74	Comparison of Sea Ice Type Identification Between Airborne Dual-Frequency Passive Microwave Radiometry and Standard Laser/Infrared Techniques	1974	15 p.	Tooma, S. G. Menneila, R. A. Hollinger, J. P. Ketchum, R. D.	L		Discusses the results of the December 1973 NAVOCEANO and NRL remote sensing experiment over the sea ice fields off Scoresby Sound on the east coast of Greenland, using RP3-A BIRDSEYE aircraft, laser profiler and infrared scanner, and NRL's nadir-looking radiometers.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 6140-2-75	Arctic Sea Ice Data Bank From Airborne Observations	1975	10 p.	Westhall, V. H.	L		Describes the Arctic sea ice airborne observation data bank established at NAVOCEANO. The data contained in the bank consist of approximately 46,000 airborne visual sea ice observations collected from 1964 to 1972 by both Project BIRDSEYE and various fleet operational missions. These observations amount to over 690,000 transit miles, covering most of the sea ice covered waters of the Arctic and marginal seas.
TN 6140-3-74	Note on the Dynamics Model of Pack Ice in the Arctic Ocean and its Surrounding Seas	1974		Pai, S.I. Li, H.	L		Discusses the dynamic model of pack ice. A mathematical model to find the relations between the microscopic and the macroscopic description of ice movements is proposed.
TN 6140-3-75	Brief Survey of the Mathematical Foundation of the Finite Element Method	1975	19 p.	Winfrey, Donald E.	L		The finite element method is described and summarized with emphasis on methods of solution - including calculus of variations, interpolation and spline functions. The development is intended to be instructive and should facilitate use of the finite element method in seeking solutions to increasingly complex environmental models.
TN 6140-5-75	Analysis of Ocean Observations Collected Within a Small Region of the East Greenland Sea, Winter 1974	1975	12 p.	Amstutz, David Winfrey, Donald Longyear, Michael	L		Describes oceanographic observations obtained during February-March 1974 from a densely sampled small region of the western Greenland Sea.
TN 6140-6-75	Arctic Sea Ice Data Bank of Submarine Observations	1975	11 p.	Westhall, V. H.	L		Describes the arctic sea ice data bank of submarine observations, which were derived from analysis of under-ice profile tracings. The data bank consists of approximately 1,900 submarine observations from profile tracings during cruises under the Arctic ice cap from 1958-1962.
TN 6140-8-75	Oceanographic Observations from the Northern Greenland Sea	1975		Winfrey, D. Amstutz, D.	L		Oceanographic data from the northern Greenland Sea are reported. These data were obtained during September-October 1972 from USCGC SOUTHWIND.
TN 6140-9-75	Bathymetric Influence on Circulation in the Greenland Sea	1975	34 p.	Winfrey, Donald E.	L		Describes oceanographic studies of the Greenland Sea which indicate that the circulation is influenced by bottom topography.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 6150-14-73	Life Cycle of a Gulf Stream Anticyclonic Eddy Observed From Several Oceanographic Platforms	1973	11 p.	Goethardt, G. A. Potocky, G. J.	L		Discusses the combined use of satellite infrared imagery, and shipboard and aircraft bathythermographs that provide near-synoptic observations of the movement and subsequent recapture of a Gulf Stream anticyclonic eddy by a large meander northeast of Cape Hatteras.
TN 6150-15-73	Statistical Summary of Gulf Stream and Slope Front Characteristics	1973	25 p.	Khedouri, E. Gemmell, W.	L		Spatial variability and thermal characteristics of the Gulf Stream and the Slope Front are summarized statistically to show the average or typical conditions.
TN 6150-16-73	Gulf Stream Eddies in the Western North Atlantic	1973	42 p.	Goethardt, G. A.	L	A049 025	Describes results of 60 thermal structure studies of the Gulf Stream system from Cape Hatteras to 60 degrees W between November 1969 and May 1973.
TN 6150-17-74	Explanation for the Cause of Discolored Water Observed Near the New England Seamount Arc During August 1967	1974	13 p.	Lewando, Alfred G., Jr.	L		During August 1967, extensive areas of discolored water were observed near the New England Seamount Arc. This document presents an hypothesis to explain these phenomena as phytoplankton blooms, triggered by nutrient enrichment from Gulf Stream induced biochemical circulation.
TN 6150-18-74	Analysis of Oceanographic Data Collected during TRANSLANT IV, 12 to 27 February 1973	1974		Lewando, A. G., Jr. Gemmell, W.H. Shank, M.K., Jr.	L		From 12 to 27 February 1973, NAVOCEANO conducted an oceanographic survey, TRANSLANT IV, southeast of Bermuda. Oceanographic and sound velocity analyses, based on data from this survey and historical files, are presented.
TN 6150-19-74	Theoretical Monthly Sea Ice Thickness at Selected Arctic Stations (July 1971 - June 1972)	1974	4 p.	Gerson, Donald J.	L		In most operations that the Navy may conduct in the Arctic, the thickness of the ice is of critical importance. This report states that the thicknesses are not actual measurements of the ice, but are calculations of thickness based on local temperatures reported during the period July 1971 to June 1972.
TN 6150-20-74	Observed Variations of the U.K. - Icelandic Gap Front	1974	30 p.	Goethardt, G. A.	L		During July 1971 the Area Studies Project of NAVOCEANO began a 15-month series of thermal structure studies of the oceanic front between Iceland and the Shetland Islands. The studies were designed to observe seasonal variation in frontal position and strength, and in addition, to measure short-term frontal variations during periods of 1 week or less.

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TN 6150-21-74	Note on Sound Ray Tracing Through a Gulf Stream Eddy in the Sargasso Sea	1974	6 p.	Gemmell, W. Khedouri, E.	L	A048 732	Demonstrates the effects of a cold Gulf Stream eddy on convergence mode sound propagation. The eddy refracts sound waves in the deep sound channel and destroys cyclic convergence zones.
TN 6150-22-74	Physical Properties and Energy Distribution of Gulf Stream Eddies	1974	24 p.	Khedouri, E. Gemmell, W.	L	A048 760	Describes temperature, salinity, sound speed, gradient currents, and energy distribution of two Gulf Stream eddies.
TN 6150-24-74	Geometric Model of Horizontal Sound Refraction Through a Circular Eddy	1974	17 p.	Gemmell, William H.	L	A046 564	Sound rays spread horizontally more rapidly upon refraction across a warm eddy than a homogeneous water mass.
TN 6150-25-74	Theoretical Monthly Sea Ice Thickness at Selected Arctic Stations (July 1972 - June 1973)	1974	4 p.	Gerson, Donald J.	L		Depicts the theoretical ice thickness at 62 Arctic and sub-Arctic stations for a one-year period as calculated from degree day accumulations maintained by the Naval Oceanographic Office.
TN 6150-26-74	Study of Wave Conditions at Little Creek Amphibious Base, Virginia	1974	14 p.	James, R. W. Anderson, B. A.	L		This study was made in response to a request from Commander, Amphibious Forces, Atlantic for advice concerning erosion of the beaches at Little Creek Amphibious Base, Virginia.
TN 6150-27-74	Note on Sound Ray Tracing Across the Gulf Stream	1974	10 p.	Gemmell, W. H.	L		This note examines the impact of the Gulf Stream on sound propagation for a shallow source (20m) using ray theory.
TN 6150-29-74	Cyclonic Eddies Observed in the Western North Atlantic, January - June 1974	1974	21 p.	Gotthardt, G. A. Doblar, R. A.	L		Thermal structure studies of the Gulf Stream system from Cape Hatteras to 61 degrees W, 26 January to 14 June 1974, indicate cyclonic eddies to be an integral part of the regional circulation.
TN 6150-30-74	Ice Conditions in the Pine Island Bay Area, Western Antarctica, as Derived from Satellite Imagery (October 1969 - February 1974)	1974	135 p.	Mitchell, P. A. Potocsky, G. J.	L		This study presents a comprehensive interpretation of the sea ice conditions in the Amundsen Sea and adjacent waters over the 5-month period of October through February for the years 1969 to 1974 as observed by the ESSA-9, ITOS-1, and NOAA-2 satellites.
TN 6150-31-74	Preliminary Report on the Gulf Stream Eddy Tracking Experiment	1974	17 p.	Cheney, Robert	L		Describes the NAVOCEANO experiment conducted between 17 September and 14 October 1974 that tested the feasibility of tracking cyclonic Gulf Stream eddies with neutrally buoyant SOFAR floats.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 6150-33-74	Naval Oceanographic Office Numerical Ice Forecasting System Operations Manual	1974	21 p.	Owens, Lester B., Jr. Gerson, Donald J.	L	A049 019	Provides instructions for operations of the NAVOCEANO Ice Prediction System. Methods are also given for special operations such as temperature forecast inputs, limits changes, expanded charts and temperature regime reversals. An analysis of potential problems and their respective solutions are included.
TN 6150-35-75	WMO Ice Observing Practices--Preliminary Test	1975		Gerson, D.J.	L		This document was drafted at the second session of the Working Group on Sea Ice (WGSI) of the World Meteorological Organization (WMO) in Geneva in June 1974.
TN 6150-36-75	Synoptic Observations of Two Adjacent Eddies in the Sargasso Sea	1975	20 p.	Cheney, R. E. Khedouri, E. K.	L		Describes the investigation of two cyclonic Gulf Stream eddies, elliptical in shape, that were surveyed in April and May 1974.
TN 6150-37-75	Environmental Analysis Sea Control Group Transit, 7 - 16 September 1975, Part I	1975	23 p.	Fisher, A., Jr. Khedouri, E. Perchal, R.	L		Describes the Sea Control Group Transit exercise, 7-16 September 1974, which evaluated the performance of an Integrated Support Force utilizing air, surface, and subsurface units in protecting high value units from attack by hostile submarine forces.
TN 6150-38-75	Experiment to Investigate the Effect of the Gulf Stream on Long Range Acoustic Propagation	n.d.	7 p.	Levenson, C. Doblar, R.	L	A046 559	Describes results of an experiment conducted northwest of Bermuda on 8 December 1974, which determined long-range acoustic propagation through the Gulf Stream front.
TN 6150-39-75	XBT File Users Guide	1975	41 p.	Fisher, Alvan, Jr.	L		Describes a set of utility programs designed to assist the oceanographer in the analysis of XBT traces contained in a worldwide data file at NAVOCEANO. The data file is a modification of the NAVOCEANO Compressed Ocean Station Retrieval System designed specifically for the UNIVAC 1108 computer.
TN 6150-40-75	Ring Tracking Experiment Using SOFAR Floats, October 1974 - March 1975	1975	19 p.	Gemmell, W. H. Cheney, R. E. Shank, M. K.	L		Describes the experiment that tested the feasibility of tracking Gulf Stream rings with neutrally buoyant SOFAR floats during 29 September to 11 October 1974. Observations indicate that it may be necessary to replace SOFAR floats in rings periodically if this method is to be used in tracking these features throughout their lifetimes.
TN 6150-41-75	Computer Estimation of the Presence of Sea Ice in Satellite Pictures	1975	85 p.	Gerson, Donald J.	L		Discusses the need for ice data in Arctic regions and the requirement that data be objectively obtained by computer analysis of satellite imagery.

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TN 6150-42-75 1975	Environmental Analysis Agate Punch 16-27 April	1975		Fisher, A. Perchal, R.J.	L		A task group consisting of amphibious forces supported by hostile submarine forces.
TN 6150-43-75	Investigation of XBT Encoding Errors and Their Effect on Sonar Range Computation	1975	14 p.	Fisher, A., Jr. Riley, L.	L		Examination of XBT data collected by Fleet units during two exercises revealed that less than 40 percent of the traces were accurately encoded for radio transmission. Encoding errors are discussed and examples given.
TN 6160-04-73	Numerical Sonobuoy Ambient Noise Data Bank	1973	33 p.	Palumbo, Joseph X. Gold, Barry A.	L		Describes the development of a numerical sonobuoy ambient noise data bank.
TN 6160-07-73	Computerized Depth Correction Data Bank for the North Atlantic Ocean and the Caribbean Sea and Gulf of Mexico	1973	27 p.	Gold, Barry A.	L		Depth correction tables and the technique used to develop a computerized data bank with these corrections are presented for the North Atlantic Ocean. These tables are to be used to correct the ocean depth measurement errors that result when a uniform sound speed is assumed throughout the water column.
TN 6160-1-74	Computerized Ambient Noise Bibliography (Updated Version, March 1974)	1974		Palumbo, Joseph X. Gold, Barry A.	L		This report updates the AESD digital ambient noise bibliographic bank. A new listing of the contents of the bank including 250 additional reports is also presented.
TN 6160-1-75	Sound Velocity Structure During the MSS Baseline Test	1975	18 p.	Bucca, Paul J.	L		During the Mored Surveillance System (MSS) Baseline Test (Nov-Dec 1973) a total of 198 XBTs and 4 STD profiles were collected in the Venezuelan Basin of the Caribbean Sea. These data were converted to sound velocity using Wilson's equation and a combination of exercise and historical salinities.
TN 6160-9-73	World Wide Distribution of Published Ambient Noise Reports and Studies	1973	12 p.	Gold, Barry A. Palumbo, Joseph X.	L	768 740	This report presents the numerical distribution of reports contained in the AESD computerized ambient noise bibliography as a function of ocean areas. A numerical breakdown according to topics directly relating to ambient noise is also given.
TN 6200-1-72	Pulsed Light Airborne Depth Sounder, July 1970 to July 1972 - Interim Report	1972	46 p.	Avery, Brian	L		Presents test results of the pulsed light airborne depth sounder (PLADS) system that was tested at Naval Air Test Center, Patuxent River, Maryland, and at the Naval Ship Research and Development Laboratory, Panama City, Florida.

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TN 6220-1-79	Extended Transducer Test on 700 Class Survey Launch	1979	24 p.	Marshall, William F. Barnes, Miles J.	L		Experimental data were collected utilizing an extended transducer installed on a 700 class survey launch. The data were analyzed to determine if the echo soundings obtained by extending the transducer below the bottom of the launch were more easily detected than those from a flush-mounted transducer.
TN 6230-1-76	Test Report of Niskin Sampler Contamination by Pressure and Temperature	1976	25 p.	Mayoral, Carlos	L		Eight pressure tests were performed on nine Niskin bottles. Significant contamination of the Niskin bottle samples occurred at the test pressures of 2900 PSIG (200 decibars) and 720 PSIG (5000 decibars). Temperature tests were also performed, and it was found that their effects were relatively insignificant. For completeness, a Hygroscopicity test was performed with almost no effect on the Niskin bottle samples.
TN 6300-1-79	Sound Velocity Accuracy Test of Sippican Expendable Sound Velocimeter	1979	51 p.	Mayoral, Carlos R. McIver, Melvin R.	L		Describes the results of tests on twelve XSV sensors that were tested for sound velocity accuracy.
TN 6300-1-80	Discussion of the Airborne Expendable Bathythermograph (AXBT, SSQ-36 BTS) Laboratory Temperature Accuracy and Time Constant Test	1980	53 p.	Gent, A. Edward Heuser, Peter J.	L		Random samples from four lots of AXBTs (120 units) manufactured by Hermes Electronics Ltd. were tested for temperature accuracy and time response using precision laboratory facilities. The results, conclusions, and a correction algorithm are presented.
TN 6300-1-81	Temperature and Salinity Accuracy Test of the Guidline Model 8770 Shallow Water CSTD	1981	4 p.	Mayoral, Carlos R.	U		A Guidline Model 8770 shallow water CSTD was tested for temperature and salinity accuracy in 35 ppt synthetic seawater over a 0 to 30 degree C temperature range. The errors determined were well within the manufacturer's specifications.
TN 6300-1-82	Test Report: Salinity Intercalibration Exercise	1982	8 p.	Mayoral, Carlos R.	U		Describes a salinity intercalibration exercise between the NOAA Engineering Support Office and the Navy Southeast Regional Calibration Laboratory.
TN 6300-1-83	Electronics Redesign of the NIUS Model 1020 Hull-Mounted Sound Velocimeter	1983	14 p.	Raffa, Stanley E.	U	A134-015	The redesign of the electronics in the NIUS model 1020 hull-mounted sound velocimeter is described.
TN 6300-1-84	Velocity Accuracy of the NBIS Direct Reading Current Meter, Model DRCM-2	1984	34 p.	Lessing, Peter A.	U		Discusses results of tow tank tests conducted on a direct reading current meter (Model DRCM-2) manufactured by Neil Brown Instrument Systems, Inc.

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TN 6300-1-87	Sound-Velocity Intercalibration Exercise	1987	15 p.	Couchouron, Jean Francois Mayoral, Carlos R.	U		An intercalibration exercise between NAVOCEANO and the Center de Brest de l'IFREMER on a sound velocimeter is described. The exercise was a part of the U.S.-France Cooperative Program in Oceanography.
TN 6300-2-79	Discussion of Salinity Computations as Used by the Southeast Regional Calibration Laboratory of the Naval Oceanographic Office	1979	34 p.	Mayoral, Carlos R.	L		Presents a simplistic explanation of the effects of pressure, temperature, and salinity on measurements of electrical conductivity of sea water, and the consequences of these effects in calculating salinity from measurements by oceanographic CTD sensors.
TN 6300-2-83	Introduction to Crevice Corrosion	1983	9 p.	Mayoral, Carlos R.	U		A cursory explanation of the causes and effects of crevice corrosion is presented.
TN 6300-3-83	Performance Test of the Aanderaa Model RCM-5 Current Meter	1983	43 p.	Lessing, Peter A. Gent, A. Edward	U		Tests conducted to determine the performance characteristics of the Aanderaa Model RCM-5 current meter are described.
TN 6300-4-80	Temperature Accuracy Tests of Aanderaa Thermistor Strings	1980	13 p.	Raffa, Stanley E.	L		Temperature accuracy tests were performed on five Aanderaa Thermistor Strings over a temperature range from 1 to 23 C. All the thermistor strings were found to be outside of the manufacturer's specification of + .15 C above the 25 C point. Error correction equations are provided to bring the temperature errors within the manufacturer's specifications.
TN 6300-4-83	Velocity Response Tests of the EG&G Vector Averaging Current Meter	1983	19 p.	Mayoral, Carlos R. Griffin, T. Wesley	U		Tow tank tests to determine the velocity response characteristics of the EG&G VACM Model 610C current meter are described.
TN 6320-1-72	Cesium Beam Stability Report	1972	2 p.	Pell, Richard F.	L		This report summarizes the results of investigations into the precision navigation system developed by Ocean Measurements, Inc. It was necessary to secure information on the inherent stability of cesium beam frequency standards.
TN 6320-2-73	Performance Characteristics of the Geodyne Savonius Rotor Current Meter	1973	15 p.	Paige, Marshall A.	L		Discusses testing of eight Geodyne Savonius rotor current meters that were calibrated using the towing facilities at the Naval Ship Research and Development Center at Carderock, MD.
TN 6610-101-72	Preparation, Evaluation of Filmstrip Annotation Techniques for the A7-E/D Projected Map Display Set, AN/ASN-99 (PMDS)	1972		Choha, DeForest D. Gray, Charles R.	L		Since the beginning of the AJ-7E PMDS program, the ability to annotate special mission planning data and update existing data was a requirement for maximum mission effectiveness.

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TN 6620-104-73	Note on the Effect of Geomagnetic Micropulsations on MAD Systems	1973	28 p.	Brennan, James A. Smits, Kuno	L		Presents a study of the effects of magnetic storms and micropulsations on the Magnetic Airborne Detectors (MAD) carried aboard U.S. Navy aircraft and used in ASW.
TN 6620-106-73	Evaluation of Optimum Filter Theory as Applied to Naval Oceanographic Office Survey Navigation Processing	n.d.	17 p.	Byrnes, Herman J.	L		Presents evaluations that compare the resulting bathymetric and gravity cross check errors after processing the same navigation data via three distinct methods. These methods include NAVOCEANO's Best Present Position Indicated (BPI), a Wiener filter solution, and a procedure applying Optimum Filter Theory.
TN 7005-1-72	North Atlantic Temperature-Sound Velocity Conversions	1972	25 p.	Bucca, Paul Fenner, Don F.	L		This report presents a modified form of the sound velocity equation of Wilson, 1960 adapted to convert bathythermograph (BT) data to sound velocity values in the upper 300 meters of the water column in the North Atlantic.
TN 7005-1-73	EASTLANT II Sound Velocity Analysis and Environmental Data Summary	1973	52 p.	Fenner, Don F. Bucca, Paul J.	L		During the EASTLANT II Exercise in August 1972, a total of 174 expendable bathythermographs (XBTs) was dropped to measure temperature as a function of depth; 103 in the West European/Iberian Basin and 71 between Madeira and the Azores Islands. These XBT data were converted to sound velocity profiles using Wilson's equation and historical salinity profiles.
TN 7005-2-72	NORLANT-72 Environmental Measurements and Preliminary Sound Velocity Analysis	1972	29 p.	Fenner, Don F. Bucca, Paul J.	L		During summer 1972, 439 oceanographic observations were collected in the North Atlantic Ocean north of 45 degrees N and west of 35 degrees W as part of the NORLANT-72 Experiment. Analyses of these data show extremely complex sound velocity structures near the center of the area at the site of the two primary stations.
TN 7005-3-73	Church Gabbro Sound Velocity Analysis and Environmental Data Summary	1973	55 p.	Fenner, Don F. Bucca, Paul J.	L		During the CHURCH GABBRO Exercise in November-December 1972, a total of 588 oceanographic observations was collected along the strike of the Cayman Trough and in the Yucatan Basin. The majority of these data were collected using XBT's and were converted into sound velocity profiles using Wilson's equation and salinities collected during the Exercise.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 7007-1-72	Technical Evaluation of the Helicopter Expendable Bathymetograph (HXBT) System, Project DN 94 FY 69	1972	28 p.	Kelley, Edward J.	L		This report summarizes the results of evaluation tests of a prototype Helicopter Expendable Bathymetograph (HXBT) System. Laboratory tests and a comparative analysis of 150 paired temperature profiles obtained with the HXBT and Shipboard Expendable Bathymetograph (SXBТ) system provide the basis for conclusions.
TN 7100-03-80	Mine Warfare Oceanographic Data Report for the Elbe and Weser River Estuaries	1980	107 p.	Stanton, Robert E.	L		The oceanographic data presented in this Technical Note were collected in the fall of 1979 in the approaches to the Elbe and Weser Rivers.
TN 7110-01-85	Geoaoustic Properties of Southwestern Somali Basin Sediments	1986	10 p.	Reynolds, Lawrence M.	L		Describes analyses made of 16 turbidites and 6 interturbidites from 8 sediment cores from the southwest Somali Basin.
TN 7110-80-05	Nearshore Ecological Monitoring at the AUTEC Sites, Andros Island, Bahamas - Site 1: Deep Reef	1980	20 p.	McDermid, Jack G.	L		The Naval Oceanographic Office conducted a study of the outer reef front margin at Site 1 of the AUTEC during August 1977. This study was designed to provide a means for evaluating changes in the outer reef front environment.
TN 7112-1-79	Data Report: Currents on the Washington Shelf	1979	104 p.	Shay, Lynn K. Lauber, Stephen	L		Current meter data from four arrays, deployed by the USNS SILAS BENT between 27 August and 4 October 1978, are presented. A total of 16 Aanderaa RCM-5 current meters, sampling current speed, direction and temperature from the near surface to near bottom at 15-minute intervals, was suspended on 4 arrays on the Washington continental shelf.
TN 7112-2-79	Data Report: Currents on the Northern California Shelf	1979	130 p.	Shay, Lynn K. Sharp, Kenneth Lauber, Stephen	L		Current meter data from five arrays, deployed by the USNS SILAS BENT between 15-22 August and 7-10 October 1978, are presented in this report.
TN 7113-80-02	Nearshore Ecological Monitoring at the AUTEC Sites, Andros Island, Bahamas - Sites 2 and 6: Ecological Baseline	1979	116 p.	Huddell, H. D. Willitt, J. C.	L		Nearshore ecological baselines were established at Sites 2 and 6 of the AUTEC during four field operations from 1972 through 1973. These baselines provide a means of monitoring the condition of the coral reef communities and will assist the AUTEC in preventing and minimizing ecological damage.
TN 7120-1-83	Bottom Currents on the Continental Shelf Off the Southeast Coast of the United States	1983	36 p.	Haeger, Steven D.	L	B079 842L	Eight near-bottom vector-averaging current meters were deployed on the Continental Shelf off the southeast United States coast, in water depths 62 to 131 ft, during the summer of 1982. Velocity data are presented, and a brief analysis of the forcing mechanisms is given.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 7120-1-84	Near-Bottom Currents and Temperatures on the Continental Shelf Off New Jersey and Delaware	1984	34 p.	Haeger, Steven D.	L	B090 559L	Five near-bottom current meters were deployed on the Continental Shelf off the coasts of New Jersey and Delaware in water depths 56 to 179 ft for 24 days in September 1983. Velocity and temperature data are presented as an analysis of the forcing mechanisms. A brief review of historical data is also included.
TN 7120-2-83	Simulating Tidal and Wind-Driven Circulation in a Shallow Coastal Bay with the Dynamic Estuary Model	1983	33 p.	Haeger, Steven D.	L		The addition of a wind-stress term to the Dynamic Estuary Model is described along with the subsequent model application to a shallow multi-inlet coastal bay.
TN 7120-2-84	Development of a Modified CMK 1 Shadowgraph	1984	17 p.	Ostericher, Charles Swenson, Richard C. Thiele, Maurice G., Jr. van Oist, Robert	L	B089 803L	Discusses the modification of the CMK 1 Shadowgraph, a high-resolution side-scan sonar developed as a mine hunting and target classification system.
TN 7210-1-79	Data Report: CTD Profiles in the Eastern Caribbean Sea, August 1978	1979	106 p.	Teague, William J.	L		A total of 66 CTD stations was taken by the USNS KANE during Cruise 343825 in August of 1978 in the Eastern Caribbean Sea. This report presents the data in a final processed form.
TN 7210-1-80	Data Report: Upper Ocean Current Measurements in the Sargasso Sea	1980	69 p.	von Zweck, Ortwin Wahl, Robert J.	L		Current meter data from an array deployed by the USNS KANE on Cruise 343918 between 4 September and 16 October 1979, 500 nm east of Jacksonville, Florida, are presented in this report.
TN 7210-1-87	Oceanographic Summary of the Mediterranean Sea	1987	43 p.	Horton, Elizabeth M.	U		Seasonal charts of physical properties including surface temperatures, salinity, and density are presented for the Mediterranean Sea. These charts were derived from the Generalized Digital Environmental Model (GDEM) data base for most of the Mediterranean, and from the Master Oceanographic Observational Data Set (MOODS) data base for the Adriatic.
TN 7210-10-80	Data Report: Current Measurements Near the Avas Ridge in the Eastern Caribbean Sea	1980	160 p.	Teague, William J.	L		Current meter data from arrays deployed in the Eastern Caribbean Sea during USNS KANE cruise 343825 in August 1978 and successfully recovered during USNS KANE cruise 343904 in February 1979 are presented. The arrays consisted of Aanderaa RCM-5 current meters.
TN 7210-12-80	Fast and Easy Binary (FEB) File	1980	29 p.	Hallock, Zachariah R.	L		A simple method for storage and access of physical data is discussed. Listings of relevant FORTRAN programs are given with detailed instructions for their use. Examples of applications are included.

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TN 7210-2-87	Circulation and Subsurface Temperature Structure In the North Atlantic From Air-Sea Interaction Drifting (ASID) Buoys, December 1984 - October 1985	1987	22 p.	Hester, B. S.	L		This is a note on meteorological data, subsurface temperature structure, and circulation information collected from three Air-Sea Interaction Drifting (ASID) buoys which were deployed in the North Atlantic Ocean northeast of Bermuda from December 1984 through October 1985.
TN 7210-3-80	Data Report: Moored Current Meter Measurements - Soya Strait, May, 1976	1980	11 p.		L		Current meter data from six arrays deployed between 22 May 1976 and 13 July 1976 in the Soya Strait are presented.
TN 7210-5-80	Data Report: Moored Current Meter Measurements - Unimak Pass, August 1974	1980	7 p.		L		Current meter data from three arrays deployed between 24 August 1974 and 19 September 1974 in the Unimak Pass, Alaska, are presented.
TN 7210-6-80	Data Report: CTD Profiles in the Western North Atlantic Ocean, August-October 1979	1980	409 p.	Broome, Robert D. Hallock, Zachariah R. Karpas, Robert M. Mulher, Frank F. Teague, William J.	L		A total of 158 CTD casts (including 17 casts with multiple profiles) and 322 XBT casts were taken from the USNS KANE during the four phases of cruise 343918 from August through October 1979, in the Western North Atlantic Ocean. This report is a presentation of the CTD and XBT data in a final processed form.
TN 7210-7-80	Data Report: CTD Profiles in the Eastern Caribbean Sea, February 1979	1980	58 p.	Teague, William J.	L		Twenty-eight CTD casts (including 2 multiple profile casts) were taken on the USNS KANE during Cruise 343904, in February of 1979, in the Eastern Caribbean Sea. This report is a presentation of the CTD data in a final processed form.
TN 7210-8-80	Prototype Digital XBT Datalogger System	1980	14 p.	Broome, Robert D.	L		Describes prototype digital XBT datalogger system developed by NAVOCEANO. This system digitally records XBT information on magnetic tape for further processing by a computer.
TN 7220-1-80	Sediment Interval Velocity Measurements in the Indian Ocean (Stations 24-37)	1980	31 p.	LeTourneau, Nelson J.	L		During 1979, as part of the survey operations, the USNS WILKES acquired sediment interval velocity data (using wide angle bottom reflection techniques (W/ABR)) in diverse parts of the Indian Ocean. This report presents that data collected from January to June primarily in the north-central Indian Ocean.
TN 7220-2-80	Sediment Interval Velocity Measurements in the Indian Ocean (Stations 38-52)	1980	9 p.	LeTourneau, Nelson J.	L		This is the second in a series of reports on sediment interval velocity measurements carried on in the Indian Ocean during 1979. This report presents the data acquired during cruise 343915, leg 38 in July, along with the calculated interval velocities and thicknesses.

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TN 7220-3-80	Sediment Interval Velocity Measurements in the Indian Ocean (Stations 53-86)	1980	9 p.	LeTourneau, Nelson J.	L		This is the fourth in a series of reports on sediment interval velocity measurements in the Indian Ocean by the USNS WILKES. The measurements were taken in the northern portion of the Somali Basin between the continental rise of Africa to the west and Chain Ridge to the east.
TN 7220-6-80	Elementary Computer Algorithm for the Mathematical Computations in Wide-Angle Bottom Reflection Analysis	1980	16 p.	McLaughlin, Michael A. LeTourneau, Nelson J.	L		This computer program performs the mathematical computations in the analysis of Wide Angle Bottom Reflection Data (WABR). The program calculates sediment thickness and velocities for each layer given the digitized input of the travel times.
TN 7220-7-80	SAGEBATE Documentation: A Computer System for Storage, Retrieval, and Display of Underway Shipboard Survey Data	1980	25 p.	Fox, Christopher G.	L		This report documents the SAGEBATE data storage and retrieval system. SAGEBATE provides a compressed data format and efficient retrieval system for underway shipboard survey data (bathymetry, magnetics, and sea surface temperature), collected by ships of the Oceanographic Department of NAVOCEANO.
TN 7300-2-73	Results of Current Observations, Church Gabbro	1973	16 p.	Banchero, Louis A.	L		Describes current measurements made at six depths in support of Exercise CHURCH GABBRO In December 1972.
TN 7300-3-81	ASIS - Acoustic Station Inventory System	1981	130 p.	Nelson, Teresa L. Malove, Paul	L		The need for a system to provide quick and easy access to and retrieval of acoustic station information prompted the development of a computerized information system called ASIS, the Acoustic Station Inventory System. This report describes the system, its various capabilities and its use.
TN 7300-9-80	Users Guide to Naval Research Laboratory's Shallow Water Normal Mode Transmission Loss Model	1980	31 p.	Ewing, Steven R.	L		The Normal Mode Transmission Loss Model, developed at the Naval Research Laboratory, is a three-layer (water, sediment, basement) shallow water computer model. The model is capable of handling moderate horizontal variability in all three layers and limited vertical variability in the first two layers. The output consists of a computer printout that includes mode amplitudes, phase velocities, attenuation ratios, other intermediate results, and a plot of transmission loss as a function of range.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 7310-01-82	Program BTLS Technical Description, Selection of Input Data, and Running Instructions	1982	184 p.	Beeson, Edward L.	U		This report documents the computer program BTLS which is used to compute geophysical parameters of the ocean bottom from measurements of bottom loss of underwater sound and simulated bottom loss of underwater sound from geophysical parameters of the ocean bottom.
TN 7331-01-82	Publications and Charts List 1977 - 1981	1982	45 p.	Marcus, Julius	L		A catalog of classified and unclassified charts and publications issued from 1977 through 1981 by the Acoustics Projects Division of the Oceanographic Department, NAVOCEANO.
TN 7331-01-86	Analysis of Transmission Loss for a Single Acoustic Path From a Towed Broadband Source	1986		Schlemmer, Robert E. Paz, Nilis Schexnayder, Kevin R.	U		Discusses the use of a broadband source from a towed acoustic projector for the computation of transmission loss and multipath arrivals which indicates that this technique provides more information about the ocean acoustic environment than the sole use of a narrowband source.
TN 7400-1-72	Sediment Thickness Patterns in the Venezuela Basin	1972	4 p.	Holcombe, Troy L. Johnson, William R. Matthews, James E.	L		These results are an outgrowth of continuing studies of the seismic reflection, bathymetry, and magnetic data collected by KANE-WILKES 1972 acoustics surveys in the Caribbean. The further definition of the history of sedimentation in this region provided by these studies will be helpful in delineating acoustic provinces and evaluating acoustic behavior, particularly in the low-frequency ranges.
TN 7400-2-72	Marine Geology of the Norwegian - Greenland Sea	1971	33 p.	Johnson, G. Leonard	L		Magnetic and paleontological data indicate that the Norwegian-Greenland Sea opened about 60 mybp with the initiation of sea floor spreading along the axis of a mid-oceanic ridge.
TN 7400-3-73	Sedimentary Hiatuses in the Venezuela Basin	1973	14 p.	Edgar, Terence Holcombe, Troy Ewing, John Johnson, William	L		This report provides additional background and insight for clearer delineation of acoustic provinces and for predicting the behavior of acoustic instrumentation in the eastern Caribbean.
TN 75-02-72	Monthly Measurements of Integrated Volume Scattering Strengths Near Bermuda	1972	18 p.	Davis, Edward E.	L		Discusses daytime volume reverberation measurements that were made once a month at five selected sites near Bermuda between July 1968 and March 1970 using airborne techniques and instrumentation.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 75-03-72	Preliminary Results from an Airborne Environmental Acoustic Investigation in the Atlantic Marginal Sea Ice Zone	1972	16 p.	Diachok, Orest I. Winokur, Robert S.	L		Describes ambient noise, propagation loss, and related environmental measurements that were made in the Atlantic marginal ice zone in June and December 1971 and April 1972 using airborne acoustic and remote sensing measurement techniques.
TN 75-2-73	Target Strengths of Humpback Whales (Megaptera novaeangliae)	1973	12 p.	Love, Richard H.	L		Discusses measurements of the target strengths of humpback whales that were made at short range and the use of a perfectly reflecting model that enabled the results obtained to be extrapolated to long ranges.
TN 7700-1-72	Precision of Sound Speed Estimated from Bathythermographs	1972	4 p.	Pickett, R.	L		Discusses the important of knowing the extent of errors inherent to BT-derived sound speeds since derived acoustic products are not better than their input.
TN 7700-10-73	Bistatic Target Strength and Source Level of the Sperm Whale (<i>Physeter catodon</i>) Measured from an Oceanographic Aircraft	1973	6 p.	Levenson, C.	L	A046 567	Describes analyses of sounds produced and reflected by sperm whales that have been recorded by a sonobuoy array and analyzed for target strength and source level.
TN 7700-3-72	Criticality of Ocean Fronts to ASW Operations	1972	26 p.	James, R. W.	L		Anomalous thermal features caused by oceanic fronts and eddies are described for the Gulf Stream. Effects on sound propagation, sonar ranges, CZ use, VDS, sonar depth, ambient noise, and volume reverberation are analyzed.
TN 7700-4-72	Automated Shipboard Forecasting	1972	8 p.	Hanssen, G. L.	L		Describes the Automated Shipboard Forecasting System (ASFS), which was developed to assist the shipboard environmentalist in rapid data processing.
TN 7700-5-72	Estimation of Whale Numbers in the Western North Atlantic	1972	23 p.	Levenson, Coleman	L		Presents a method of estimating whale populations from shipboard and aircraft data in the western North Atlantic.
TN 7700-6-72	Characteristics of Sounds Produced by Humpback Whales (<i>Megaptera novaeangliae</i>)	1972	10 p.	Levenson, Coleman	L		Describes the analysis of sounds produced by humpback whales near Bermuda during April 1969.
TN 7700-7-72	Oceanic Frontal Analysis	1972	13 p.	Fisher, Alvan, Jr.	L	A048 725	A method is given for the analysis of thermal structure based on identification of water masses and localization of oceanic fronts. The resulting oceanic frontal analysis appears to offer a significant improvement over isotherm analysis, both with respect to objectivity of analysis method and information displayed.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 7700-8-72	Frost Degree Day and Related Theoretical Ice Thickness Curves for Selected Russian Arctic Stations	1972	35 p.	Potocsky, Gabriel J. Mitchell, Peter A.	L		Presents frost degree data for 15 selected locations along the northern Russian Arctic coast which were utilized to construct theoretical ice growth curves.
TN 8000-1-72	Survey Report: Guam & Korean Operations, USNS KELLAR 1971	1972	47 p.		L		This report describes the USNS KELLAR (T-AGS 25) which was a civilian-manned coastal hydrographic survey vessel under the control of NAVOCEANO and operated by the Military Sealift Command. It was turned over the Portuguese Navy and renamed the COMMANDANTE ALMEIDA CARVALHO.
TN 8100-1-73	Glossary of Technological Forecasting Terms	1973	17 p.	Collier, Martin L.	L		Presents a comprehensive list of terms that may be used for technological forecasting functions.
TN 8222-01-87	Department of Defense Geomagnetic Data Library User Guide	1986	15 p.	Vega, Betty D.	U	A181 344	Presents a brief description of the resources and services available from the Geomagnetic Data Library to authorized users.
TN 8222-02-87	DOD 1985 World Magnetic Model - Charts and Grid Values	1987	107 p.	Cagle, Lana G.	U	A191 484	The new DOD magnetic model, WC-85 which was adopted as the official model by the U.S. and U.K. defense establishments and then by the International Hydrographic Bureau is discussed.
TN 8300-02-83	Program Technique for the Reduction of Field Gravity Data	1983	60 p.	Clough, Marian O. Goldsmith, Gail D. S. Kaszubski, James W.	L		This document describes programs for the reduction of field gravity data. The result of this processing is a filtered compilation of gravity, navigation, and bathymetric data.
TN 8300-02-87	Gravity Data Base	1987	20 p.	Jones, Robert P.	L		This report documents the implementation of the gravity data base, which replaces a tape-based system, to provide guidance for personnel assigned to use it, and to offer an operational description to others who may be interested in the way this section does its data processing.
TN 8300-03-82	New Technique for Storing and Accessing the World Data Base II Coastline	1982	19 p.	Depner, Jan C. Hammack, James A.	U		This document describes a software package for plotting accurate, high-resolution world coastlines using CALCOMP or DISSPLA plotting routines.
TN 8300-04-83	Program Techniques for the Evaluation, Storage, and Retrieval of Gravity Data	1983	82 p.	Jones, Robert P. Richard, Eugene D.	U		This document describes programs for the creation and maintenance of gravity data files by the Data Evaluation and Library Section of the Gravity Division.
TN 8300-05-83	Graphic Presentation Through Computerized Methods	1983	48 p.	Landrum Jerry L.	U		Computer graphics provides a fast and accurate method to display oceanographic, geophysical and other information. The computer graphics capabilities are briefly described and illustrated.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 8422-1-84	Determination of the Tidal Reducers for the Hydrographic Survey of Makassar Strait, Indonesia	1984	29 p.	Robertson, Lewis H. Najjar, Arthur S., Jr.	L		Hydrographic surveys were conducted in the northern and central areas of the Makassar Strait between 1979 and 1982 and have been ongoing in the southern area since 1982. No significant problems were encountered in determining tidal reducers in the northern area. This note discusses the methods used and required to determine the reducers for the Makassar Strait.
TN 9000-2-80	Processing of XBT Data Recorded by a Digital Cassette Recording System	1980		Vigliotti, Vincent Guthrie, Robert	L		The Bathy System, Inc. expendable bathythermograph (XBT) digital recording system was successfully used aboard the R/V ENDEAVOR in June 1979. This system records data on 4-track cassettes and uses the same recording device and technique as the Vector Averaging Current Meter.
TN 9000-7-80	FOX-II Oceanographic Analysis - June 1979	1980	21 p.	Blumenthal, Barry P.	L		Discusses environmental data that was collected during June 1979 as part of FOX-II, a CINCANTFLT/NAVOCEANO/ONR acoustic exercise designed to measure the effects of a Gulf Stream cyclonic ring on both short- and long-range sound propagation.
TN 9000-91-79	Comparison Between Measured and Theoretical Transmission Loss Across the Gulf Stream	1979	18 p.	Gold, Barry A. Vigliotti, Vincent	U	A128 586	Discusses acoustic transmission loss and detailed environmental measurements that were made in May 1978 along a 900-km track in the Western North Atlantic transecting Slope Water, the Gulf Stream, and the Sargasso Sea.
TN 9000-92-79	Preliminary Results of Gulf Stream Ring Tracking via Doppler Satellite Techniques	1979	18 p.	Blumenthal, Barry P.	L		Describes NAVOCEANO's investigations of mesoscale oceanic fronts and eddies as part of its Frontal Mapping Project.
TN 9000-93-79	Correcting Satellite Images for Relative Distortion on a Real-Time Basis (A Display Interactive System)	1979	16 p.	Williams, Stephen P.	L		A computer-based display interactive system for concurrently digital satellite images is presented. The system, which provides simultaneous image-to-image and image-to-ground registration, is designed for real-time applications where the time available for image registration and analysis is severely restricted.
TN 9100-04-86	Ekman-Advection-Induced Variability in the Gulf Stream's Surface-Subsurface	1988	21 p.	Horton, Charles W.	U		Simultaneous observations of the Gulf Stream's surface and subsurface fronts have shown their relative positions to be quite variable. We show that, on the average and for a particular set of observations, only a small fraction of the observed variability in the Gulf Stream's surface-subsurface frontal separation is due to advection of the surface front by the local wind stress.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 9100-1-81	Oceanographic Observations of the Somali Current During the 1979 Southwest Monsoon	1981	24 p.	Beatty, William H., III Guthrie, Robert C. Bruce, John G.	L		Oceanographic observations were taken from USNS WILKES (T-AGS 33) from 16 August until 5 September 1979, in the area of the Somali Current. Analysis of the data indicated the presence of two large anticyclonic gyres.
TN 9100-1-83	Fronts in the Southeast Indian Ocean (IOR-4): Estimates of Their Structure and Positions	1983	14 p.	Bruce, John G.	U		Describes the fronts in the southwest Indian Ocean (IOR-4) that are associated with the south equatorial current, the south equatorial countercurrent, the West Australian current, and to some extent, the subtropical convergence.
TN 9100-1-85	Modulation of Gulf Stream Surface-Subsurface Frontal Separation by Path Curvature	1985	12 p.	Horton, Charles W.	U		Observations of surface-subsurface frontal separation have inconsistently demonstrated a relationship between surface-subsurface frontal separation and subsurface-front path curvature. An analytical model of surface- subsurface frontal separation shows that this separation is modulated by curvature of the path of the subsurface front, and that the strength of this modulation is proportional to the surface-subsurface frontal separation where the path curvature is zero.
TN 9100-12-80	Analysis of Acoustic Conditions During ASWEX 1-80	1980	8 p.	Partridge, R. M. Gorski, R. M.	L		Presents an analysis of oceanographic and acoustic conditions in the Sargasso Sea during ASWEX 1-80. The analysis is based on six selected bathythermographs which were processed using ICAPS.
TN 9100-12-81	Some Effects of the Somali Front on Acoustic Propagation During the Southwest Monsoon Season	1981	14 p.	Beatty, William H., III Gorski, Rose M.	L		Acoustic ray traces and intensities for a 250-Hz source at 100-m depth were calculated for receiver depths of 18m, 91m, 305m, and 800m across the Somali Front.
TN 9100-13-82	Preliminary Report on the Use of Bayesian Decision Theory for Automatic Water Mass Classification From Satellite Radiometer Data	1983	10 p.	Coulter, Robert E.	U		Fronts and water masses of the northwest Atlantic Ocean are detected in satellite infrared images by an automated classification procedure.
TN 9100-15-82	SAFE PASS 82 Environmental/Acoustic Reconstruction	1982	279 p.		L		Describes the environmental/acoustic reconstruction of SAFE PASS 82 (8-19 March 1982), which was based on 143 AXBT observations and 8 ambient noise stations.
TN 9100-15-84	Mixed-Layer Deepening in the Iceland-Faeroes Front During October 1980	1985	24 p.	Horton, Charles W. Beatty, William H., III	L		Discusses two BT surveys separated by approximately 2 weeks during October 1980 measuring changes in mixed-layer depth in the area of the Iceland-Faeroes front.

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TN 9100-17-82	SHAREM 46 Environmental/Acoustic Reconstruction	1982	62 p.		L		Describes the environmental/acoustic reconstruction of SHAREM 46 (23-27 March 1982), which was based on 28 AXBT observations and 2 ambient noise stations collected from an RP-3A aircraft on 21 March 1982.
TN 9100-18-81	Quasi-Synoptic Oceanographic Observations of the Front North of the Faeroe Islands During October 1980	1982	42 p.	Beatty, William, III	L		Describes five cross-sections consisting of closely spaced XBT and CTD drops that were made along the north slope of the Faeroe Islands Plateau during October 1980.
TN 9100-18-82	SHAREM 47 Environmental/Acoustic Reconstruction	1982	51 p.		L		Describes the environmental/acoustic reconstruction of SHAREM 47 (18-24 April 1982), which was based on 200 AXBT observations and 9 ambient noise stations.
TN 9100-19-81	Inferring the Gulf Stream Path in Areas of Satellite Imagery Obscured by Clouds	1982	15 p.	Szczeczkowski, Carl	L		A computational method for determining the path of the Gulf Stream, based primarily upon the work of Robinson and Niller (1967), is adapted to support satellite IR imagery interpretation. The model is used to interpolate the path through those areas where cloud cover inhibits satellite observation.
TN 9100-19-84	User's Manual for Gulf Stream Predictive Model (GSSPM)	1985	13 p.	Horton, Charles W. Szczeczkowski, Carl	L		The Gulf Stream subsurface predictive model (GSSPM) provides to the user the path of the Gulf Stream north wall at depths between 300 and 1000 ft. Its required input is the path of the north wall at the surface. Details of its use and examples of its predictions are provided.
TN 9100-2-81	Proposed Plan for Automatic Mapping of Surface and Subsurface Ocean Features Using Satellite Imagery	1981	15 p.	Horton, Charles W. Coulter, Robert E.	L		A plan for implementing a totally automated system to determine the location of oceanic surface and inferred subsurface features from near-real-time satellite data is described. Special attention is focused on the Gulf Stream region.
TN 9100-2-83	Users Guide to Satellite Environmental Analysis Automated Interactive Display System (SEA AIDS)	1983	23 p.	Szczeczkowski, Carl	L		Describes image processing computer programs which are operational on NAVOCEANO's Satellite Environmental Analysis Automated Interactive Display System.
TN 9100-2-85	Basic Propeller Theory and Cavitation	1985	16 p.	Visintainer, Randal H.	L		Discusses cavitation which occurs when the pressure on a propeller blade face or appendage face is less than the vapor pressure of water.
TN 9100-20-82	NORTHERN WEDDING 82 Environmental/Acoustic Reconstruction	1982	73 p.		L		This paper presents the results of 5 airborne surveys conducted at the request of COMSTRIKEFLTLANT on 3-13 September 1982 in an area west and north of the United Kingdom.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 9100-22-81	SHAREM 44 Environmental/Acoustic Reconstruction	1982	285 p.		L		Describes the environmental/acoustic reconstruction of SHAREM 44 (23-26 September 1981), which was based on 147 AXBT observations, 11 ambient noise stations, 49 SXBT stations, 15 XSV stations, and 32 SSV observations.
TN 9100-3-83	Observations of the Near-Surface Gulf Stream: Eddy Formation and Surface Front Advection	1983	12 p.	Horton, Charles W.	U		The formation of an eddy-like feature in the surface front was observed during the August 1982 survey of the Gulf Stream that was conducted southeast of Halifax, Nova Scotia.
TN 9100-4-83	OCEAN SAFARI 83: Environmental/Acoustic Reconstruction	1983	53 p.	Horsley, LaVerne E.	L		Describes the environmental/acoustic reconstruction of OCEAN SAFARI 83 (7-17 June 1983), which was based on 190 AXBT observations and 2 ambient noise stations.
TN 9100-5-86	Shape of the Gulf Stream in GEOSAT Residuals	1987	13 p.	Horton, Charles W. Rankin, William Blaha, John	U		Altimeter residuals for the geodetic mission of the geodetic satellite (GEOSAT) were unclassified in the vicinity of the Gulf Stream in the Northwest Atlantic and were widely distributed. Because the NAVOCEANO geoid is a hybrid geoid, the shape of the Gulf Stream sea-surface height in altimeter residuals is distorted from its true shape. The nature of this distortion, which removes longer wavelength information from the oceanographic signal, is modeled. An observation of the shape of the Gulf Stream sea-surface height in GEOSAT residuals is offered for comparison.
TN 9100-9-81	Preliminary Report on Inferring the Path of the Subsurface Front of the Gulf Stream From Surface Infrared Observations	1982	12 p.	Horton, Charles W.	U		Describes a time series of Gulf Stream surface and subsurface paths that was obtained from aircraft using expendable BTs and precision radiation thermometer measurements which covered an area north of Cape Hatteras.
TN 9200-01-86	Program Performance Specification for the TESS 2.0 Contour-Digitization Program	1987	51 p.	Albrecht, Jay A.	L		The Tactical Environmental Support System (TESS) Contour-Digitization program provides the means to digitize meteorological and oceanographic analyses for use in various TESS applications programs. The program also provides the capability to plot previous digitized fields for briefing-support purposes. This program performance specification describes the processing required to provide these capabilities. Program inputs and outputs are also described.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 9200-02-82	SHARPS Model and On-Scene Prediction Systems	1982	21 p.	Banas, Paul J.	L		A historical perspective of the development and implementation of the SHARPS model for generating sonar range predictions is given, with a discussion of specific impacts on on-scene prediction systems.
TN 9200-02-83	Integrated Command ASW Prediction System Digest	1983	76 p.		L	C034 223	ICAPS enables on-scene computerized processing of oceanographic data in order to provide tailored acoustic and tactical information rapidly for direct support of fleet operations.
TN 9200-03-81	TXBT Selection Process	1981	6 p.	Novak, Richard E.	L		The typical XBT (TXBT) concept was developed to characterize the thermal profile of the upper ocean for a specified area in the absence of an on-scene XBT. A computer program was developed to access the NAVOCEANO XBT files and then to retrieve all XBTs for a given ICAPS water mass, region, and month.
TN 9200-03-82	Computer Program Performance Specification for the Lateral Range Probability of Detection Model	1982	13 p.	Niolet, Mary	L		This document describes the performance requirements for the computer program portion of the Lateral Range Probability of Detection Model.
TN 9200-03-83	SHARPS III Computer Program Performance Specification for NATO ICAPS	1983	224 p.		L		SHARPS III is an environmental acoustic model designed to provide detection range forecasts for a wide variety of sonar systems, installations, and operating modes. This report describes the interfaces, functions, and data formats for developing the necessary software.
TN 9200-04-82A	Program Performance Specification for the Tidal Prediction Program	1982	52 p.	Middlestead, Carol	U		This document describes the performance requirements for the computer program portion of the Tidal Prediction Program.
TN 9200-04-83	Tactical Environmental Support System Data Requirements	1983	47 p.	Moersdorf, Paul F. Johnson, Andrew, Jr.	L		This document constitutes the program design specification for the Typical Expendable Bathythermograph function (TXBT) to be implemented into the Integrated Command ASW Prediction System (ICAPS).
TN 9200-05-82	Typical Expendable Bathythermograph Function Program Design Document, Rev. A	1982	10 p.	Lever, John A.	L		This document constitutes the program design specification for the Typical Expendable Bathythermograph (TXBT) function which was implemented into the Integrated Command ASW Prediction System (ICAPS).

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 9200-05-83	Computer Program Performance Specification for the Sound Speed Profile Module	1983	26 p.	Boston, Mark A.	U		The sound speed profile module was developed by NAVOCEANO for use in the Tactical Environmental Support System (TESS). Using a merged profile of locally observed and historical ocean data, the program computes a sound speed profile. This profile is subsequently examined by the program to determine depths and gradients significant to tactical ASW.
TN 9200-06-83	Integrated Command Antisubmarine Warfare Prediction System (ICAPS) Mediterranean Sea Update	1983	18 p.	Boston, Mark A.	L		This document describes the evaluation and update of the ICAPS historical data base for the Mediterranean Sea. The analysis techniques developed and used during the project are also discussed. Using a temperature filter depth of 100 meters and a temperature filter gradient between 100 and 200 meters, 21 water masses were identified to describe the oceanography of the 13 subareas in the Mediterranean Sea.
TN 9200-07-83	Integrated Command ASW Prediction System (ICAPS) Indian Ocean Data Base Update	1983	28 p.	Novak, Richard E.	L		Discusses the Integrated Command ASW Prediction System, which uses environmental data to develop tailored acoustic and tactical products.
TN 9200-1-80	ICAPS - The Integrated Command ASW Prediction System: A Digest	1980	71 p.	Floyd, W. Ray, III	L		The ICAPS Digest is a basic introduction to the Integrated Command ASW Prediction System which was developed by NAVOCEANO. It enables on-scene computerized processing of oceanographic environmental data in order to provide tailored acoustic and tactical information rapidly for direct support of fleet ASW operations.
TN 9200-10-81	Computer Program Performance Specification for the Ambient Noise Model (ANOM)	1981	33 p.	Fusillo, Lawrence J.	L		An empirical Ambient Noise Model (ANOM) has been developed for use with on-scene environmental/ASW prediction systems which require estimates of ocean ambient noise.
TN 9200-10-82	ICAPS Atlantic Data Base Expansion - Sources and Methods	1982	30 p.	Boston, Mark A.	L		This document describes the sources and methods used to expand the spatial coverage of the ICAPS Atlantic Ocean data base into the South Atlantic. The document serves as a reference for evaluation, update, and further expansion of the data base.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 9200-11-80	Development of an Experimental BT Recapitulation (RECAP) Program	1980	8 p.	Fusillo, Lawrence J.	L		An experimental computer program was developed to store synoptic BT observations and analyze temperature, sound speed, and salinity for a given ocean area. Displays of temperature at a given depth, layer depth displays, critical and bottom depth displays, water mass displays and multiple profile displays are produced by the program. The displays are designed to assist in oceanographic analysis for environmental forecasting and for ASW exercise reconstruction.
TN 9200-11-82	Typical Expendable Bathythermograph (TXBT) Plotting Programs Maintenance Document	1982	27 p.	Niolet, Mary	U		NAVOCANO has developed a Typical Expendable Bathythermograph Data Base for use as input to the Integrated Command ASW Prediction System. A TXBT is an actual XBT observation which has been selected as being statistically the most representative XBT for a particular month and water mass. Plotting programs were developed to provide graphic presentations of the TXBT data. The purpose of this report is to provide assistance to maintenance programmers of software analysts dealing with the programs.
TN 9200-13-80	Computer Program Performance Specification for the Oceanic Data Analysis (ODA) Package	1980	18 p.	Banas, Paul J.	L		This document describes the performance requirements for the computer program portion of the Oceanic Data Analysis package.
TN 9200-13-81	Task Force Area Coverage Prediction System (TAPS) Test Specification	1981	91 p.		U		This test specification provides a formal basis for program performance evaluation of the Task Force Area Coverage Prediction System (TAPS). Program functions to be tested and test criteria are identified. Procedures to be followed in conducting the tests are supplied.
TN 9200-14-81	Integrated Command ASW Prediction System (ICAPS) Water Mass Plotting Programs	1981	13 p.	Andersen, Mary	L		This document introduces, explains, and provides detailed guidance for use of the ICAPS water mass plotting programs designed to run on the UNIVAC 1108 computer.
TN 9200-16-81	ICAPS User Survey on Sensor Performance Decision Aids	1981	16 p.	Angell, Gordon G. Smith, Lee, III	L		On-scene environmental support system such as ICAPS give users a variety of sensor performance decision aids. The results of a survey of users regarding their experience with such aids are reported.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 9200-17-81	AQA-7 Vernier Optimization Model for ASW Search (AVOMAS) Program Maintenance Document	1981	26 p.	Middlestead, Carol A.	L		The AQA-7 Vernier Optimization Model for ASW Search (AVOMAS) was developed to assist ASW Operations Center (ASWOC) and air crew personnel in the tactical use of the AN/ACA-7(V)45/6 vernier processors. This report provides assistance to maintenance programmers or software analysts dealing with AVOMAS.
TN 9200-17-82	Computer Program Performance Specification for the Tidal Prediction Module	1982	58 p.	Boston, Mark A.	U		Describes a tidal prediction model developed by NAVOCEANO for inclusion in the Tactical Environmental Support System.
TN 9200-18-82	Tactical Environmental Support System (TESS) Satellite Processing Capabilities	1982	17 p.	Moersdorf, P. F.	L		This report describes how the Tactical Environmental Support System will process satellite data recorded by AN/SMQ-6, -10, and -11 receivers. The system is required to screen data, display weather forecasts on geographic backgrounds or grids, and store desired information.
TN 9200-19-80	Oceanic Data Analysis Test Specifications	1980	6 p.	Novak, Richard E.	L		This test specification provides a formal basis for program performance evaluation of the Oceanic Data Analysis (ODA) package.
TN 9200-20-81	Functional Requirements for On-Scene Environmental Prediction Systems	1981	26 p.	Moersdorf, Paul F.	L		This document addresses future functional capabilities envisioned for the Tactical Environmental Support System (TESS) and other Fleet environmental prediction systems, taking into account presently existing and validated Fleet requirements.
TN 9200-20-82	Analysis of Multiple Profile Propagation Loss (MPPL) Models	1983	43 p.		L		This report analyzes 20 present-day multiple profile propagation loss models for use with computerized on-scene prediction systems.
TN 9200-21-81	Computer Assisted Instruction (CAI) Program User's Guide and Maintenance Document	1981	68 p.	Whipple, Jeffrey J. Niolet, Mary P.	L		Computer Assisted Instruction (CAI) is a program which provides the ICAPS system with the capability to create and use review files on many different subjects. This document includes a description of the internal operation of the program, instructions for constructing review files, and operator instructions.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 9200-3-80	Implementation of the TASSRAP II Target Data File in ICAPS	1980	14 p.	Lever, John	L		This note consists of a description of the threat file developed for use within the Integrated Command ASW Prediction System (ICAPS). A discussion of the motivation behind the design is included as well as a description of the various components of the file. There is also a section specifying the operating procedures of the Threat File Access Program (TFACCSS).
TN 9200-4-81	Computer Program Performance Specification for the Profile Generator Model	1981	11 p.	Andersen, Mary	L		This document describes the performance requirements for the computer program portion of the Profile Generator model.
TN 9200-6-80	CS-ASWM/ICAPS Interface Definition	1980	16 p.	Heaton, Jeffrey S.	L		This note details the configuration, use, and logistic support of the ICAPS interface.
TN 9200-6-81	Survey of Ambient Noise Prediction Capabilities	1981	16 p.	Anderson, Rockne S. Fusillo, Lawrence J.	L		Twenty-two computer models have been developed to predict ambient noise from the shipping traffic using empirical noise data or computations based on shipping data.
TN 9200-9-80	Upper Ocean Environmental Data Bases	1980	5 p.	Moersdorf, Paul F.	L		A brief study of the advantages and disadvantages of two environmental data bases of the upper ocean was conducted. The purpose was to provide enough information on them to choose the most appropriate for use in Navy on-scene prediction systems.
TN 9200-90-79	Operating Procedures for ICAPS on UNIVAC 1108 TEKTRONIX 4014 Graphics Terminal	1980	36 p.	Middlestead, Carol Ann	L		Describes modifications of the UNIVAC 1108 version of the ICAPS program library to enable it to operate with the TEKTRONIX 4014 terminal in interactive mode with the output displayed in graphic form.
TN 9310-1-73	Sound Velocity Structure of the Northeast Atlantic (27 degrees N - 45 degrees N)	1973	38 p.	Sprague, Vance G., Cocke, William T., III Janaitis, Timothy W.	L		Approximately 400 SVSTD stations were occupied during the four seasons of the year 1970-71. Spatial and seasonal variations of several significant sound velocity parameters are shown for the Iberian Basin by the use of plan views. The seasonal distribution of Mediterranean Intermediate Water (MIW) is also shown and several cells of concentrated MIW are identified.
TN 9320-01-73	Acoustic Reflectivity Measurements East of Kamchatka	1973	129 p.	Kaufman, Oscar Frank John	L	C012 732L	This report emphasizes the solar simulator data in the grazing angle interval of 0 to 40 degrees which is applicable to bottom bounce sonars operating in the active mode.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TN 9320-02-73	Preliminary Analysis of 100-Hz Bottom Loss Data	1973	12 p.	Christensen, R. E. Kaufman, O. Frank, J.	L	C012 705	An analysis of 100-Hz bottom loss data from 225 MGS stations is presented.
TN 9330-1-73	Notes on Processing and Analyzing Underway Data	1973	16 p.	Sprout, Charles B.	L		The installation of the PDP-9 Oceanographic Data Acquisition System (ODAS) on the deep ocean survey ships has reduced the overall amount of time required for the production of final products such as annotated track charts, profiles of data vs. distance, and magnetic tapes containing underway data merged with navigation. This note contains a set of guidelines which may be used to recognize and correct both machine and human errors made during data processing and/or digitizing of underway data.
TR --4	Practical Method of Predicting Sea Ice Formation and Growth	1954	27 p.	Lee, Owen S. Simpson, Lloyd S.	U	058 827	A technique for predicting ice formation and growth is presented. Using the ice potential calculations and heat budget equations of various authors, new formulas are derived for computing ice growth in terms of known or predicted oceanographic and meteorological data. The technique is applied to forecasting ice conditions in Baffin Bay-Davis area for 1952-53.
TR --5	Analytical Method of Ice Potential Calculation	1954	13 p.	Brown, Allen L.	U	050 042	The techniques for computing the ice potential developed by Zubov and Derant are analyzed and a simplified, rapid, analytic method of computation is developed.
TR --6	Ice Budget of the Arctic Pack and Its Application to Ice Forecasting	1954	13 p.	Corton, Edward L.	U	052 366	Contains a discussion of the annual cycle of the polar pack, as well as a statistical presentation of the amount of melting, amount of new ice formation, and the average age of the remaining polar ice under various assumptions.
TR --7	Analysis of Environmental Factors Affecting Ice Growth	1954	31 p.	Callaway, Elliott B.	U	058 726	Presents experimental evidence of effect of environmental factors on growth of fresh and saltwater ice. An equation relating these factors developed by Kolesnikov is evaluated and the results applied to forecasts in specific areas in USSR and Baffin Bay.
TR --8	Harbor Freezeup Report - 1957	1959	81 p.		U		Describes formation and growth of sea ice at Point Barrow, Alaska; Thule and Sondre Stromfjord, Greenland; Cape Hooper, and Goose Bay, Labrador in autumn 1957. Includes meteorological data.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR -9	Electric Wave Staff (Hydrographic Office Model MARK I)	1955	17 p.	Updham, Sidney H.	U		Describes development and construction of and gives operating instructions for using the wave staff. This instruction is used for making direct recordings of wave action in deep-sea areas.
TR -13	Distribution of Ice in Baffin Bay and Davis Strait	1955	32 p.	Kaminski, Henry S.	U		General characteristics of water circulation and the distribution of sea ice are discussed.
TR -14	Preliminary Investigations on Predicting Properties of Bottom Pressure Fluctuations	1955	31 p.	Timme, Richard C. Stinson, Fannie A.	U	075 303	Characteristic properties of background pressures are obtained using empirical results and statistical methods for computing energy or power spectra. Comparisons between predicted and observed properties are given.
TR -16	U.S. Navy Hydrographic Office Synoptic and Prognostic Wave Charts	1955	22 p.	Schule, John J., Jr. Ropek, John F.	U	071 762	A technique for preparing synoptic and prognostic wave charts is described and a chart series is presented.
TR -22	Local Environmental Factors Affecting Ice Formation in Sondre Stromfjord, Greenland	1955	26 p.	Tapager, James R. D.	U	100 162	Presents a study of oceanographic and meteorological conditions of the fjord to determine their relationship to ice. Describes ice formation during autumn 1953 as well as the history of normal ice formation.
TR -23	Local Environmental Factors Affecting Ice Formation in North Star Bugt, Greenland	1956	40 p.	McGough, Raymond J.	U	107 732	A study of environmental factors influencing formation and growth of sea ice in 1953 at Thule, Greenland.
TR -24	Local Environmental Factors Affecting Ice Formation in Ternington Basin, Labrador	1955	29 p.	Lee, Owen S.	U	099 261	Compares formation, growth, and disintegration of sea ice during autumn 1953 with historical data.
TR -25	Distribution of Ice, Amundsen Gulf to Shepherd Bay	1955	49 p.		U		The distribution of ice is discussed as determined from expedition reports and limited aerial ice observations. The regional climatology and some of the oceanographic variables affecting the growth, movement, and disintegration of sea ice in this area also are presented.
TR -26	Power Spectrum Analysis of Internal Waves from Operation STANDSTILL	1955	20 p.	Brown, Allen L. Corton, Edward L. Simpson, Lloyd S.	U	086 504	Selected temperature readings of half-hourly bathythermograph observations taken on Operation STANDSTILL were analyzed by power spectrum methods.
TR -29	Operation DEEP FREEZE II, 1956 - 1957, Oceanographic Survey Results	1957	155 p.		L	158 745	Summary and results of oceanographic operation in the Antarctic and adjacent waters. Data on thermal structure, salinity, density, dissolved oxygen content, bottom sediments and biology are presented for the Weddell Sea, Ross Sea, and Vincennes Bay Region.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR -30	Climatology of the Ice Potential as Applied to the Beaufort Sea and Adjacent Waters	1955	16 p.	Corton, Edward L.	L	086 506	Describes techniques for ice potential climatology using heat loss, depth of connection, and stability of the water column.
TR -31	Rochedos Sao Pedro E Sao Paulo (St. Peter and St. Paul Rocks)	1956	63 p.	Tressler, Willis L. Bershad, Suzanne Bennighausen, William H.	L	100 722	Describes the 1955 visit of the USS ATKA as well as all previous recorded visits. Changes in the form of the rocks, geology, lithology, fauna, flora, seismicity, and volcanism of the areas are discussed.
TR -33	U.S. Navy Hydrographic Office Report on Operation DEEP FREEZE I	1956	81 p.		U	115 267	Results of hydrographic, geodetic, astronomic, geophysical, and oceanographic operations during the U. S. Navy Antarctic survey operations in support of DEEP FREEZE I, 1955-1956, are presented. Seven ships ran continuous oceanic sounding lines for a grand total of 162,842 nautical miles.
TR -37	Processing Bathythermograph Data at the Hydrographic Office	1956	19 p.	Richmond, Benjamin S.	U		A brief history of bathythermograph processing since 1941 is given. A new method developed in 1955 and installed at the Hydrographic Office is described. Possible future uses for BT film data in automatic transcription to punch cards are discussed.
TR -38	Evaluation of the "Morskoi Atlas" (With Translations from Volumes I and II)	1958	441 p.	Dubach, H. W. Slessers, M. A.	U		Presents an evaluation of the charts describing the marine environment of the world. Comparison of the analysis by USSR environmentalists is made with works by other recognized world authorities.
TR -40	Characteristics of Polar Ice Observed During the 1957 Arctic Cruise of the USS NAUTILUS	1958	19 p.	Wittmann, Walter I. Ropek, John F.	L	A032 759	Discusses sea-ice features of polar pack transited during 1957 Arctic cruise of the NAUTILUS. Latitudinal and regional sea-ice features are compared. Recommends future use of submarines for data collection.
TR -41	Texas Tower Oceanographic Observational Program, Spring and Summer 1956	1956	23 p.	Carlson, Quick H. Magnitzky, Wayne A.	U	124 407	The objectives of the observational program are outlined, the observatory and its instruments are described. The data collected during spring and summer 1956 are summarized and future plans are outlined.
TR -46	Oceanographic Survey Results, Bering Sea Area, Winter and Spring 1955	1958	95 p.		L	203 415	USCGC NORTHWIND and USS BURTON ISLAND collected 79 oceanographic stations, 55 bottom samples, ice, weather transparency, and surface currents.
TR -47	Study of the Types, Seasons of Attachment, and Growth of Fouling Organisms in the Approaches to Norfolk, Virginia	1958	35 p.	Maloney, William E.	L	208 073	An analysis of marine biological fouling data obtained in 1956-57 along the bottom near Thimble shoal in lower Chesapeake Bay.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR -48	Field Report: Oceanographic Observations, U.S. Navy Antarctic Expedition, 1954-1955, USS ATK (AGC-3)	1956	82 p.		U	103 554	Contains the summary and results of oceanographic operations in Antarctic and adjacent waters from the Ross Sea eastward through Bransfield Strait to the Weddell Sea. Data obtained from snow and ice studies on the fast and shelf ice are included.
TR -49	Report of the Ice Observing and Forecasting Program, 1954	1955	164 p.		L	064 093	A summary of the Hydrographic Office ice operations in the North American Arctic during 1954. The operations included the Bering Sea Expedition, SUNEC 1 and 2, north Alaska, and the Canadian Arctic Archipelago.
TR -50	Report of the Ice Observing and Forecasting Program, 1955	1956	155 p.		U		A summary of the Hydrographic Office ice operations in the North American Arctic during 1955 is presented. The operations included the Bering Sea Expedition, SUNEC 1 and 2, north Alaska, and the Canadian Arctic Archipelago.
TR -51	Report of the Ice Observing and Forecasting Program, 1956	1957	163 p.		U	127 826	See description of TR 50.
TR -52	Report of the Ice Observing and Forecasting Program, 1957	1958	147 p.		U	209 342	See description of TR 50.
TR -53	Evaluation of the U.S. Navy Hydrographic Office Ship Routing Program	1958	31 p.	James, Richard W. Hanssen, George L.	U	207 893	Evaluates 32 oceanographic route forecasts provided for MST S vessels. Tables and charts summarize results.
TR -54	Meteorological and Oceanographic Factors Relating to Antarctic Air-Sea Rescue Operations and Human Survival	1957	10 p.		U	143 856	Presents meteorological and oceanographic background information between New Zealand and McMurdo Sound, Antarctica.
TR -55	Descriptive Oceanography of Kuwait Harbor	1959	43 p.	Dubach, Harold W. Wehe, Theodore J.	U	225 632	Describes oceanographic analysis of Kuwait Harbor and adjacent waters based on observations taken between November 1948 and May 1949. Included are temperature, salinity, surface, and subsurface currents, waves, bottom sediment data and other incidental observations.
TR -57	Reports on the Mekong River Delta	1968	143 p.	Gagliano, Sherwood M. McIntire, W. G.	L		A study on deltaic environments which affect water craft and craft handling. Composed of sections on the fundamental aspects of deltaic processes and form with focus on the Mekong Delta.
TR -58	Oceanographic Observations, Arctic Waters, Task Force Five and Six, Summer-Autumn 1956-USS REQUISITE (AGS-18), USS ELDORADO (AGC-11), USS ATK (AGB-3), USCGC EASTWIND (WAGB-279)	1960	89 p.		U	251 584	Oceanographic data collected by four ships in various arctic areas during summer and autumn 1956. Included are temperature, salinity, density, sound velocity, current, and bottom sediment data.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR -59	Oceanographic Observations, Arctic Waters, Task Force Five and Six, Summer-Autumn 1957 - USCGC EASTWIND (WAGB-279), USCGC WESTWIND (WAGB-281), USCGC SPAR (WAGL-403), USS ATKA (AGB-3), USS ELDORADO (AGC-11)	1959	145 p.		U	235 440	Oceanographic data collected by five ships in various arctic areas during summer and autumn 1957. Included are temperature, salinity, density, sound velocity, bathythermograph, current and bottom sediment data.
TR -60	Frost Degree Day, Related Ice Thickness Curves, and Harbor Freezeup and Breakup Dates for Selected Arctic Stations	1965	123 p.	Kniskern, Franklin E., Potocky, Gabriel J.	U	473 345	Contains historical frost degree data and sea ice information for 58 selected Arctic stations, including earliest, latest, and breakup dates.
TR -61	Reappraisal of the Tides of the Mediterranean	1958	32 p.	Maloney, William E., Burns, Robert E.	U	A950 794	Proposes that Mediterranean tides result from tide-producing forces rather than a co-oscillation due to tidal progression from the Atlantic.
TR -62	Method for Estimating the Flushing Time of Estuaries and Embayments	1959	19 p.	Gibson, Blair W.	U	225 633	A relationship is derived from the circulation pattern of a piedmont-type estuary to express the time required for change of estuarine volume by tidal action and river flow.
TR -63	Investigations of Deep-Sea Sediment Cores, I. Shear Strength, Bearing Capacity, and Consolidation	1961	70 p.	Richards, Adrian F.	U	816 562	Describes results of an investigation of engineering and mass physical properties of 35 sediment cores collected from Hydrographic Office oceanographic ships in 1958 and 1959.
TR -64	Report of the Ice Observing and Forecasting Program, 1958	1959	148 p.		U	235 438	A summary of H. O. ice operations in the North American Arctic during 1958 is presented. Phases discussed are: preliminary planning, operational aspects of obtaining and disseminating ice information, the ice observing and forecasting programs, and the method of verification and evaluation of ice forecasts.
TR -65	Report of the Ice Observing and Forecasting Program, 1959	1961	121 p.		U	280 338	A summary of H. O. ice operations in the North American Arctic during 1959 is presented. Phases discussed are: preliminary planning, operational aspects of obtaining and disseminating ice information, the ice observing and forecasting program, and the method of verification and evaluation of ice forecasts.
TR -69	Sea Surface Temperature Synoptic Analysis, ASWEPS Report No. 7	1962	17 p.	Gibson, Blair W.	U	417 687	Describes techniques for preparing detailed sea surface temperature analysis for large ocean areas utilizing injection temperatures.
TR -71	Requirements for a High-Altitude Satellite All-Weather Celestial Navigation System to Be Known as the PATHFINDER Navigation System	1959	20 p.		L		A method for using high-altitude satellites to provide an all-weather celestial navigation system to be known as the PATHFINDER Navigation System.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR -80	Study of Oceanographic Conditions as Related to Project POLYNYA	1961	75 p.	Senior, Charles W.	U	402 916	Presents an ice-growth retardation model based on an air-bubbling system installed by MSTSLANT at Thule, Greenland during autumn 1959. Contains oceanographic and meteorological data obtained during autumn 1959 and 1960.
TR -82	Operation DEEP FREEZE 60, 1959-1960, Oceanographic Survey Results	1961	231 p.		U	260 903	Presents results of oceanographic research during 1959-60. Ships' tracks to, in, and from the Antarctic and locations of all oceanographic stations are given.
TR -88	Submarine Oceanographic Digital Data System	1961	26 p.		U	262 660	Describes a system for sensing, processing, and recording sound velocity, sea water temperature, wave height, ambient light, date, time, transducer depth, and certain ship motions. This system is digital and is designed principally for use aboard submarines.
TR -91	Submarine Oceanographic Instrument Installation Aboard USS REDFIN (SS-272)	1960	29 p.		L	317 336	Describes development and installation of oceanographic and ship-motion instruments.
TR -94	Tongue of the Ocean Research Experiment, ASWEPS Report No. 3	1960	132 p.	Magnitzky, A. Wayne French, Howard V.	U	871 589	Describes a research experiment, conducted aboard the USS SAN PABLO for the purpose of studying temperature structure in the waters of the Tongue of the Ocean from 4-20 March 1960.
TR -96	Marine Biological Fouling in the Approaches to Chesapeake Bay	1961	40 p.	Daugherty, F. M., Jr.	U	281 104	Results and analysis of two and one-half years of marine biological fouling data obtained along the bottom of the approaches to Chesapeake Bay from April 1956 to November 1959.
TR -97	Final Report on Doppler Navigation Test, Project N-26	1960	19 p.		U	249 935	Naval and commercial self-contained airborne Doppler navigation systems were operationally tested to determine their capability to supply geographical positioning data for reconnaissance mapping with aerial photography.
TR 100	Power Spectrum Analysis of Wave Motion, Submarine Roll Angle, and Relative Cross-Flow Velocities, Cruise II: USS REDFIN (SS-272)	1961	61 p.	DeLeonibus, P. S.	U	252 717	Presents a discussion of digital and analog recordings of surface wave motion and ship and fluid motions. These recordings were made while a submarine was hovering at different relative headings.
TR 104	Prediction of the Thermocline Depth, ASWEPS Report No. 5	1960	81 p.	Mazeika, P. A.	U	288 596	Presents method for predicting thermocline depth based on BT data and weather conditions at ocean station Charlie (52 degrees North, 35 degrees West), particularly stability in the thermocline and extent of convergence or divergence in wind-driven currents.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 105	Operation DEEP FREEZE 61, 1960-1961, Marine Geophysical Investigations	1962	217 p.	U	297 261		Contains results of the Marine Geophysical investigations in the Antarctic and adjacent waters. Data on the thermal structure, salinity, density, dissolved oxygen, field analysis of bottom sediment, ice distribution, bathymetry across the South Sandwich Trench, and geomagnetic measurements are presented.
TR 106	Investigations of Deep-Sea Sediment Cores, II. Mass Physical Properties	1962	146 p.	Richards, Adrian F.	U	416 611	Discusses results of laboratory measurements of the mass physical properties of more than 700 samples including: grain size, specific gravity of solids, wet unit weight, water content, void ratio, liquid and plastic limits, and compressive and/or vane shear strength.
TR 107	Occurrence and Velocity Distribution of Short-Term Internal Temperature Variations Near Texas Tower No. 4, ASWEPS Report No. 1	1961	45 p.	Gaul, Roy D.	L	266 307	Describes a study of the occurrence, speed, and direction of short-term changes in water temperature structure near Texas Tower No. 4 off New York. Measurements were made during 2-week periods during the fall of 1959 and spring of 1960.
TR 108	Submarine Geology of the Tongue of the Ocean, Bahamas	1962	84 p.	Busby, Roswell F.	U	404 878	Analyses of sediment cores, 6 grab samples, and 4 stereographic camera tracks.
TR 109	Environmental Study, Tongue of the Ocean and Exuma Sound	1961	347 p.		L	329 076	Contains a compilation and analysis of published and unpublished material concerning the oceanography of the Tongue of the Ocean and Exuma Sound. It contains information on marine geology, physical properties of the sea water, underwater sound, transparency, marine biology, tides, currents, sea, and swell.
TR 115	Deflection of the Vertical Computation by Electronic Computer Using Areas Bounded by Geographic Coordinates	1962	17 p.	Campbell, Andrew C.	U	400 123	Outlines an automated process for computing gravity deflection components.
TR 117	Harbor Analog System, Part I - Waves	1961	33 p.	Grabham, A. Lawrence	U	281 585	Classifies world harbors and nearshore (<30 FM) areas into analogous groups with respect to frequency distribution of wave heights and periods. (Antecedent to TR 154.)
TR 118	Operation DEEP FREEZE 62, 1961-1962, Marine Geophysical Investigations	1965	157 p.		U	462 114	Contains results of the Marine Geophysical Investigations in the Antarctic and along USS BURTON ISLAND track to and from Antarctica. Data on the thermal structure, salinity, density, dissolved oxygen, field description of bottom sediments, ice distribution, bathymetry, and geomagnetic measurements are presented.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 120	Operational Test of 70 mm. Format High Altitude Photography for Mapping	1962	31 p.	Gettys, Richard F.	U	282 238	Describes results of limited operational tests to determine the potential of high-altitude 70-mm format aerial photography for mapping.
TR 121	Instrumentation and Procedures for Digital to Analog Conversion of Sonic Surface Scanner Data for Input to an Analog Wave Analyzer	1962	27 p.	DeLeonibus, P. S. Fleischhaker, A.	U	296 565	Contains the electronic devices and procedures required to convert discrete ocean surface wave height data into a form suitable for input to a wave analyzer.
TR 125	Seasonal Oceanographic Studies in McMurdo Sound, Antarctica	1962	141 p.	Tressler, Willis L. Ommundsen, Audun M.	U	383 504	Contains a series of oceanographic stations taken at an icehole 3 miles offshore in McMurdo Sound, Antarctica during the austral winter of 1960-61. Data on temperature, salinity, dissolved oxygen, current, and bottom sediment are presented, along with notes on marine life.
TR 126	Wave Induced Bottom Pressures Off Cape Henry, Virginia	1961	20 p.	Cline, Clifford H. Felts, Harold C.	L	331 470	Describes the results and analyses of one year's (April 1960 through April 1961) wave-induced bottom pressure data obtained in 36 feet of water, one-half mile east of Cape Henry lighthouse.
TR 127	Oceanographic Investigations Made During the Submerged World Circumnavigation, USS TRITON (SSRN(N)586), 16 February to 10 May 1960	1962	37 p.	Maby, N. R.	L	329 448	Describes instrumentation and techniques used aboard USS TRITON for oceanographic measurements during circumnavigation, 16 February to 11 May 1960. Data obtained are included.
TR 129	Operational Evaluation of EN-29A Photographic Projection Printer (Orthophotoscope)	1962	16 p.	Gettys, Richard F.	U	286 243	Describes testing under operational conditions of the Photographic Projection Printer EN-29A, or Orthophotoscope, to determine the horizontal accuracy and photo quality of the orthophotograph, the problems likely to be encountered during extended operation of the instrument, and the adequacy of performance in possible future applications.
TR 131	Ocean Currents Over Plantagenet Bank, Bermuda, ASWEPS Report No. 6	1962	73 p.	Pedrick, Robert A.	U	416 748	Contains results of an ocean current study over Plantagenet Bank, Bermuda, from 1 to 15 August 1961.
TR 132	Diurnal Temperature Changes at Ocean Station ECHO - September 1959, ASWEPS Report No. 9	1962	21 p.	Corton, Edward L.	U		Describes diurnal temperature changes deduced from a series of 900 half-hourly BTs obtained at ocean station echo (35 degrees North, 48 degrees West) in September 1959.
TR 133	Marine Magnetic Survey Off the East Coast of the United States, Project N-20	1962	29 p.		U	402 248	Describes geomagnetic character of an area off east coast of the United States between 35 degrees North and 40 degrees North and 70 degrees West, and its relations to bathymetric and seismic data.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 137	Marine Magnetic Survey South of the Hawaiian Islands	1962	47 p.		U	400 322	Discusses detailed marine magnetic surveys conducted in a 56,000 square mile area south of the Hawaiian Islands. The data revealed magnetic lineations which suggest that a major fault zone occurs in this region.
TR 141	Oceanographic Stations Taken in the Indian Ocean by USCGC EASTWIND (WAGB-279) in 1961	1963	84 p.	Tressler, Willis L.	U	433 272	Contains results of 30 oceanographic stations taken in the Indian Ocean by USCGC EASTWIND during a return voyage from the Antarctic in 1961.
TR 143	HYDRA IIA - Hydroacoustic Signals	1962	11 p.	Dunlap, Paul M., Jr.	L	332 669	This report gives the results and analysis of HYDRA IIA acoustic monitoring program during the summer of 1961.
TR 144	Study of Aeromagnetic Component Data Plantagenet Bank	1964	18 p.	Young, G. A. Konlis, A. L.	U	433 023	Data from an aeromagnetic survey, under LORAN-C control, are used to compute anomalous components and elements of the magnetic feature associated with Plantagenet Bank. Estimates shape, location, and magnetic character of the source body.
TR 146	Statistical Analysis of the Thermal Structure at Ocean Weather station ECHO, ASWEPS Report No. 8	1964	63 p.	Hazelworth, John B.	L	450 633	Describes sonar experimental research card (SERC) deck, consisting of numerous bathythermograms and associated weather data from five Ocean Weather Stations and computer program utilizing these data.
TR 147	Prediction of the 400-Foot Temperature in the North Atlantic, ASWEPS Report No. 10	1965	73 p.	Mazeika, P. A.	U	618 680	Mean surface and 400-foot temperature anomalies are used to predict the 400-ft temperature several days in advance with an accuracy of 1.1 degrees F.
TR 148	Wave Climatology as an Aid to Ship Routing in the North Atlantic Ocean	1963	20 p.	Joseph, Ellis J. Kipper, John M., Jr.	U	427 244	Relates climatological data to ship speed reduction in the North Atlantic Ocean. TR 192 (Indian and Indonesian Seas) and TR 219 (North Pacific Ocean) are sequels to this publication.
TR 149	Study of Wave Persistence for Selected Locations in the North Atlantic Ocean, North Sea, and Baltic Sea	1963	69 p.	Kipper, John M., Jr. Joseph, Ellis J.	U	436 879	Presents wave persistence graphs constructed from wave data collected by lightships and ocean station vessels.
TR 150	Submarine Sediment Data Collection and Management at the U.S. Naval Oceanographic Office, Supplement	1964	4 p.	Duncan, John K.	L	446 418	This supplement describes the methods of securing, processing, and storing submarine sediment data at NAVOCEANO.
TR 150	Submarine Sediment Data Collection and Management at the U.S. Naval Oceanographic Office	1964	81 p.	Duncan, John K.	L	353 405	Describes the methods of securing, processing, and storing submarine sediment data at NAVOCEANO. Data sources are listed and worldwide distribution by one-degree quadrangles is shown.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 154	Harbor Analog System, Part II - Temperature Structure	1963	59 p.	Graham, A. Lawrence	U	439 055	Classifies world harbors and nearshore (<30 FM) areas into analogous groups according to mean air and mean water temperature, tide ranges, and freshwater influence. (Sequel to TR 117).
TR 157	Sharks of the Family Lamnidae	1963	16 p.	Farquhar, G. Brooke	U	427 400	Summarizes available data on some biological aspects of the lamnid sharks.
TR 159	Marine Magnetic Survey of the New England Seamount Chain, Project M-9	1963	37 p.	Walczak, James E.	U	437 916	Results of systematic geomagnetic and bathymetric survey during June, July, and August 1962 by USS SHELDRAKE (AGS-19).
TR 160	Marine Magnetic Survey Off the Southern Bahamas, Project M-15	1963	29 p.	Bracey, Dewey R. Avery, Otis E.	U	427 762	A geomagnetic survey off the Southern Bahamas revealed three distinctive magnetic lineations which indicate the area is the focus of three major faults or fault zones.
TR 161	Geomagnetic and Bathymetric Profiles Across the North Atlantic Ocean	1963	74 p.	Avery, Otis E.	U	431 164	Presents data collected during the two North Atlantic crossings between New York and the Norwegian Sea during multiship survey operations in November 1961 and March 1962. A total of 17,200 miles was surveyed on six transoceanic tracks.
TR 165	Oceanographic Office Evaluation of a Variable Magnification 70-mm Roll Film Stereoscopic Viewer	1964	8 p.	Gettys, Richard F.	U	863 506	Summarizes an operational evaluation of a standard model Zoom-70 stereoscope with a 70-mm roll film scanning stage attachment.
TR 166	Study of Aeromagnetic Data, New England Seamount Area	1965	18 p.	Kontis, A. L. Young, G. A.	U	614 117	Results of a detailed aeromagnetic survey by Project MAGNET of a 38,000 square mile area off the coast of New England in May 1957.
TR 167	On-Board Magnetometer Tests	1964	51 p.	Avery, Otis E. Obrochta, Robert F.	L	353 434L	Describes magnetometer tests conducted aboard USNS BOWDITCH (T-AGS 21) during May and June 1963 that evaluated the feasibility of making on-board magnetic measurements with a sensor mounted on or near a steel-hull ship.
TR 168	Marine Magnetic Surveys in the Northwest Pacific Ocean	1963	11 p.	Bracey, Dewey R.	U	442 030	A survey of two areas off the Kamchatka Peninsula between June and September 1962 shows steep, high amplitude magnetic anomalies on or near the continental shelf.
TR 169	Gravity Measurements Over the European Calibration Line with LaCoste and Romberg Gravity Meters, g-2, g-5, and g-15	1964	28 p.	Emberg, S. C. Hollensbe, D. F.	U	611 106	Detailed gravity measurements during summer 1963 between Sicily and Norway reveal instrument errors.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 171	Interim Report on the Sound Velocity Distribution in the North Atlantic Ocean	1965	74 p.		U		Consists of an analysis of the variation of sound velocity with depth in the North Atlantic Ocean. The analysis, based upon 488 plots of sound velocity versus depth, was undertaken to provide a framework for the analysis of all available data in this ocean.
TR 172	Submarine Geomorphology of Eastern Ross Sea and Sulzberger Bay, Antarctica	1966	34 p.	Lepley, Larry K.	U	863 508	Describes submarine topography using data from DEEP FREEZE 61, 1960-1961; Marine Geophysical Investigations. Origins of large depressions and ridges are related to Pleistocene glacial history and structural geology.
TR 173	Bottom and Subbottom Investigation of Penobscot Bay, Maine, 1959	1965	177 p.	Osterrichter, Charles, Jr.	U	863 509	Presents 168 bottom sediment results and records of 10 sonoprobe runs collected during an inshore survey in Penobscot Bay, Maine.
TR 174	Oceanography of the Eastern Great Bahama Bank, Part I: Temperature-Salinity Distribution	1964	42 p.	Busby, Roswell F., Dick, George F., Jr.	U	613 615	Delineates temperature-salinity distribution over a one-year period and outlines major factors influencing these distributions.
TR 176	Results of the Persian Gulf-Arabian Sea Oceanographic Surveys, 1960-61	1965	239 p.	Peery, K., Rohrhirsch, J., Hammond, W., Smith, D., Michel, R.	U	863 510	Contains results of oceanographic surveys in the Persian Gulf and Arabian Sea from aboard USS REQUISITE in February and March 1960 and January to March 1961. Temperature and salinity profiles across the upper and lower Persian Gulf, the Strait of Hormuz, Bay of Oman, and the Arabian Sea are presented.
TR 179	On the Generation and Directional Recording of Waves in the Arctic Ocean	1965	44 p.	Leschack, Leonard A.	U	863 511	Describes experimental design and results in determination of directionality and generation mechanisms of surface wave action occurring in Arctic Ocean ice.
TR 180	Quantitative Analysis of Some Bathymeterograph Errors, ASWEPS Report No. 11	1966	27 p.	Hazelworth, John B.	U	635 259	A statistical analysis of BT errors contained in data collected during eight 3-week cruises to OWS ECHO between 1958 and mid-1963.
TR 182	Mathematical Models for Navigation Systems	1965	142 p.	Thomas, Paul D.	U	627 893	An evaluation is given of the Inverse distance solution as used in LORAN-type charting with extensions of formula to give distance and azimuths on the reference ellipsoid within a meter and a second, respectively. Also develops or studies latitudes and geometric quantities referenced on the auxiliary sphere-spheroid configuration.
TR 183	Wave Hindcast Project North Atlantic Ocean	1966	35 p.	Bunting, Donald C.	U	630 431	Presents a resume of various phases of the task, the problems encountered and their solutions, and a summary of the final results.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 184	Distribution and Characteristics of Surface Bioluminescence in the Oceans	1966	48 p.	Staples, Robert F.	U	630 903	An analysis of about 3,000 reports of bioluminescence displays on file at NAVOCEANO. Various aspects of bioluminescence, bioluminescent organisms, and distribution are discussed.
TR 186	Sediments of the Northern Arabian Sea	1966	28 p.	Stewart, R. A. Pilkay, O. H.	U	863 513	Discusses temperature, salinity, and bottom sediment data collected during the USS REQUISITE oceanographic survey in northern Arabian Sea during February and March 1961.
TR 187	Sediments and Reef Corals of Cayo Arenas, Campeche Bank, Yucatan, Mexico	1966	58 p.	Busby, Roswell F.	U	863 512	Presents an evaluation of the influence of wind and currents on the morphology, biota, flora, and sediments on and near a coral shelf reef.
TR 188	Terrestrial and Earth Satellite Navigation Systems	1966	139 p.	Thomas, Paul D.	U	811 250	Satellite navigation and positioning systems are discussed against a background of terrestrial electromagnetic systems.
TR 189	Ocean Bottom Reconnaissance Off the East Coast of Andros Island, Bahamas	1966	58 p.	Busby, Roswell F. Bright, Chester V. Pruna, Andries	U	804 975	Presents results of visual and photographic examination of the ocean bottom. Includes oceanographic and meteorological data pertinent to underwater cable implantation.
TR 190	Operations Deep Freeze 63 and 64 Summer Oceanographic Features of the Ross Sea	1966	193 p.	Countryman, Kenneth A. Gsell, William L.	L	638 176	Identification and distribution of water masses in the Ross Sea. Includes thermal structure, salinity, density, sound velocity, and dynamic topography data for 200 stations.
TR 191	On the Interpretation of Fetch-Limited Wave Spectra as Measured by an Airborne Sea-Swell Recorder	1967	62 p.	Barnett, T. P. Wilkerson, J. C.	L	824 468	Fetch-limited wave spectra generated by a steady wind were sequentially measured with an airborne sea-swell recorder to estimate rates of growth for various components of the wave spectrum.
TR 192	Wave Climatology as an Aid to Ship Routing, Part II: Indian Ocean and Indonesian Waters	1967	37 p.	Land, Patterson B. Valiski, Robert	L	646 991	Relates climatological data to ship speed reduction during four seasonal months. TR 148 (N. Atlantic Ocean) is Part I of this series, and TR 219 (N. Pacific Ocean) is Part III.
TR 193	Major Currents in the North and South Atlantic Oceans Between 64 Degrees N and 60 Degrees S	1967	92 p.	Boisvert, William E.	L	827 586	Depicts locations, direction of flow, speed, and other characteristics of major currents in the North and South Atlantic.
TR 194	Heat Absorption and Heat Budget at Ocean Station Echo, September 1959	1967	29 p.	Corton, Edward L.	L	814 063	BT data are used to calculate horizontal and vertical heat exchange in the ocean surface layer to a depth of 100 feet for clear, partly cloudy, and cloudy skies during daylight hours.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 197	Examination of Synoptic Oceanographic Data, ASWEPS Report No. 13	1967	21 p.	Jung, Glenn H.	L	820 088	Presents an analysis of a repeated grid of stations in the North Atlantic in July 1963 to determine horizontal conductivity effects on thermal structure.
TR 199	Study of the Antilles Current Using Moored Current Meter Arrays	1967	142 p.	Maloney, William E.	L	825 564	Analyzes synoptic measurements collected with "Richardson-Type" current meters 225nm east of the Bahamas during June-July 1965 and January-February 1966. Frequency distributions of current speed and direction were based on 50-second averages of current measurements collected every 10 minutes.
TR 200	Some Summer Oceanographic Features of the Laptev and East Siberian Seas	1968	50 p.	Lockerman, Robert C.	L	832 199	Surveys were conducted during 1963 and 1964 to study summer oceanographic conditions. Effects of river runoff on water characteristics are emphasized.
TR 201	Oceanographic Survey Results Off Point Arguello, California, January and November-December 1964	1968	53 p.	Thomas, Robert W.	L	831 061	Analysis of results of two surveys with emphasis on currents. Contains bottom sediment logs, plankton summary tables, and current drogue summary sheets.
TR 202	Some Results of an Oceanographic Survey in the Northern Greenland Sea, Summer 1964	1968	49 p.	Codispoti, Louis A.	L	863 514	Deals with summer distributions of temperature, salinity, dissolved oxygen, and micronutrients. Positions of oceanographic stations are estimated.
TR 203	Oceanography in the Channel Islands Area Off Southern California, September and October 1965	1968	50 p.	Tooma, Samuel G., Jr. Iredale, Harry, III	U	863 515	Presents a detailed environmental study of the Channel Islands area with emphasis on currents, sound velocity structure, and bottom composition.
TR 204	Comparisons of Remote Airborne Oceanographic Sensors	1968	39 p.	Beckner, C. F., Jr.	L	845 930	Compares a number of remote sensors and their applications in detecting oceanographic features. Includes aerial photographs of a Rhodamine-B dye patch made to determine flow characteristics.
TR 207	Evaluation of the 1965.0 Epoch, H.O. 1706 World Magnetic Variation Chart	1968	303 p.	Hill, Donald W.	L	839 516	Evaluates reliability of the variation chart by direct comparison of charted and observed values. Magnetic variation plays an important role in navigation.
TR 208	ASWEPS Shallow Water Investigation, Virginia Capes Area, February-March 1967	1968	19 p.	Fisher, Alvan, Jr.	L	841 649	Oceanic thermal structure over the continental shelf off the Virginia Capes was investigated during later winter 1967. Results show that thermal structure can be predicted if synoptic data are sufficient. (Antecedent to TR 212.)
TR 209	Evaluation of a Computerized Numerical Wave Prediction Model for the North Atlantic Ocean	1970	61 p.	Bunting, Donald C. Moskowitz, Lionell I.	L	879 274	A computerized wave prediction model is statistically analyzed by comparison with wave records from shipboard wave meters and a wave staff.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 210	Detailed Thermal Structure of the Western Gulf Stream Region, ASWEPS Report No. 15	1968	25 p.	Thompson, Bertrand J. Gemmell, William H.	L	850 399	Analyzes several thermal structure characteristics observed in the Western Gulf Stream region. Features include formation of a Gulf Stream meander, a warm eddy in slope water, a cool ring south of the Gulf Stream, and numerous other indications of warm- and cold-water advection.
TR 211	Modification and Utilization of AN/SSQ-41 Sonobuoys for the Collection of Volume Reverberation Data from Aircraft	1968	43 p.	Davis, Edward E. Parham, John B. Kelly, Clyde E.	L	849 291	Contains results of test and feasibility studies of modified sonobuoys in the Western North Atlantic for collection of volume reverberation data.
TR 212	ASWEPS Shallow Water Investigation, Virginia Capes Area, September-October 1967, ASWEPS Report No. 16	1969	25 p.	Fisher, Alvan, Jr.	L	856 924	Contains detailed thermal structure of an oceanic area over the continental shelf off the Virginia Capes during autumn 1967. Major features include warm surface water in the eastern portion of the area and a strong sound channel adjacent to the continental shelf.
TR 213	Measurements of Volume Reverberation from Aircraft in the North Atlantic Ocean	1970	41 p.	E. Davis	L		Seasonal variations in volume reverberation in the western North Atlantic measured from aircraft using modified sonobuoys show that winter scattering is lower than summer. There appears to be some correlation between distribution of biological scatterers, oceanographic parameters, and measured sound scattering.
TR 214	Fitting a Set of Straight Lines to a Digital BT Profile	1969	23 p.	Yerger, Walter E.	L	854 628	Describes a computer algorithm for fitting straight lines to subsets of points in a digital BT profile or any kind of digital profile in order to improve quality and manageability of the National Oceanographic Data Center BT File.
TR 215	Satellites Capable of Oceanographic Data Acquisition - A Review	1969	81 p.	LaViolette, Paul E. Seim, Sandra E.	U	856 133	Discusses various U.S. satellites capable of remote oceanographic observation.
TR 216	Some Summer Oceanographic Features of the Norwegian Sea, Summer 1963	1969	35 p.	Countryman, Kenneth A.	U	862 215	An analysis of water mass, physical property, current, and nutrient data collected by the USS EDISTO (AGB-2).
TR 217	Oceanographic Survey Results, Kara Sea, Summer and Fall 1965	1969	64 p.	Milligan, Donald B.	U	863 641	Presents a detailed study of the Kara Sea from 163 oceanographic stations occupied by the USCGC NORTHWIND (WAGB-282). Water masses of the Kara Sea are emphasized. Contains cross sections of temperature, salinity, reactive silicate, reactive phosphorus, and pH.
TR 218	Influence of the Natural Environment on MAD Operations	1969	37 p.	Brennan, James A. Davis, Thomas M.	U	868 340	A nonmathematical approach to the relationship between the natural environment and magnetic anomaly detectors.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 219	Wave Climatology as an Aid to Ship Routing, Part III: North Pacific Ocean	1969	45 p.	Land, Patterson B. Vaitiski, Robert	U	861 643	Relates climatological data to ship speed reduction during four seasonal months. (TR 148 (N. Atlantic Ocean) is Part I of this series, and TR 192 (Indian and Indonesian Seas) is Part II.)
TR 221	Major Currents Off the West Coasts of North and South America	1969	34 p.	Boisvert, William E.	U	866 656	Describes eight principal currents in various regions from the Bering Sea to Cape Horn.
TR 222	Major Currents Along the Coasts of Norway and the USSR to the Kurils	1970	22 p.	Boisvert, William E.	U	878 632	Depicts location, direction of flow, general speed, and other characteristics of 17 major currents.
TR 223	Aerial Observation of Gulf Stream Phenomena, Virginia Capes Area, October 1968-May 1969	1970	23 p.	Fisher, Alvan, Jr. Gothardt, Gerald A.	L	878 968	Describes oceanographic macrofeatures observed with airborne sensors northeast of Cape Hatteras.
TR 224	Biological Sound Scattering Studies, Part I: Initial Investigations in the Gulf of Mexico and Western North Atlantic	1970	35 p.	Zahuranec, Bernard J. Pugh, W. Lawrence Farquhar, G. Brooke	U	877 032	Summarizes initial (before May 1967) bioacoustic investigations of deep scattering layers (DSL). Environmental, acoustic, and biological aspects of the DSL are discussed, with emphasis on the latter.
TR 225	Numerical Methods of Predicting the Northern Edge of the Gulf Stream, ASWEPs Report No. 18	1971	14 p.	Gemmell, William H.	L		An attempt is made to simulate and predict occurrence of Gulf Stream meanders by a numerical computer method. Establishes a simple barotropic dynamic model.
TR 226	Spline Interpolation Algorithms for Track-Type Survey Data with Application to the Computation of Mean Gravity Anomalies	1970	50 p.	Davis, Thomas M. Kontis, Angelo L.	L	881 287	Evaluates cubic and bicubic spline interpolation procedures for generating gridded data values and estimates of mean free-air gravity anomalies. Effects of track spacing, track orientation, and down-track sampling rate on interpolation accuracy are demonstrated.
TR 231	Sound Velocity Structure of the North Indian Ocean	1972	98 p.	Fenner, Don F. Bucca, Paul J.	U	759 352	Compares monsoonal sound velocity profiles and temperature-salinity diagrams for 36 locations. Contains surface, intermediate, and subsurface circulation diagrams.
TR 232	Intermediate and Deep Current Measurements in the Northeast Pacific Ocean	1975	31 p.	Earle, Marshall D.	U	A017 236	Describes ocean currents that were measured in the central northeast Pacific with nine arrays of moored current meters during autumn 1973.
TR 233	Synthetic Bathymetric Profiling System (SYNBAPS)	1973	58 p.	Vanwyckhouse, Roger J.	U	762 070	Describes a computerized technique for rapid generation of bathymetric profiles along great circle paths in order to establish a worldwide bathymetric data bank. Ten FORTRAN IV computer programs are presented. With slight modification the programs are applicable to other contoured data.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 234	Investigation of XBT Encoding Errors and Their Effect on Sonar Range Prediction	1977	12 p.	Fisher, Alvan, Jr. Riley, L.	U	A036 664	Examination of XBT data collected during two fleet exercises revealed less than 40 percent encoding accuracy for radio transmission. Encoding errors are discussed and examples given.
TR 236	Determination of the Frequency of Occurrence of Biological False Targets for a New Mine-Hunting Sonar System	1974	54 p.	Love, Richard H. Farquhar, G. Brooke	L	530 439L	Describes the frequencies of occurrence of biological false targets, determined for three areas off the coast of the United States, to assist in a design study to develop a new mine-hunting sonar.
TR 237	Geomorphology of Johnston Atoll	1973	27 p.	Ashmore, Stanley A.	U	768 300	A comprehensive bottom topography survey of the Johnston Island platform to 100-foot depths between August and November. Supporting unpublished data consisted of sounding journals, fathometer traces, smooth sheets, and horizontal control records.
TR 241	Coastal Oceanographic Use of the Defense Meteorological Satellite Program (DMSP)	1975	51 p.	Huh, Oscar K.	U	A024 269	Evaluates use of the DMSP for collecting near-real-time, remotely sensed sea surface thermal data.
TR 241	Coastal Oceanographic Use of the U.S. Air Force Data Acquisition and Processing Program (DAFP)	1973	11 p.	Huh, Oscar Karl	U		The spaceborne infrared sensors (8-13 um) of the Air Force meteorological Data Acquisition and Processing Program (DAFP) have provided remarkable images of mesoscale sea surface thermal patterns outlining currents, thermally distinct water masses, and oceanic fronts. This document presents results of imagery taken of the thermal outlines of the South Korean Coastal Oceanic Front, the Tushima Current, the Yellow Sea Warm Current, the China Coastal Current, and the Liman Current during 1971-72.
TR 242	Optimal Smoothing - A Postsurvey Navigation Data Processing Program	1975	75 p.	Byrnear, Herman J. Fagin, Samuel L.	U	A023 752	Provides a FORTRAN IV computer program technique for improving survey plots capable of operating in a variety of navigational modes, using real and simulated survey data.
TR 244	IOMEDEX Sound Velocity Analysis and Environmental Data Summary	1974	52 p.	Fenner, Don F. Lackie, Kenneth W. Watrous, Benjamin A. Banchero, Louis A.	L	C000 419	During the Ionian Mediterranean Exercise (IOMEDEX) in Nov 1971, a total of 581 oceanographic observations were collected in the Ionian Basin of the Mediterranean Sea, along with continuous bathymetric and weather observations.
TR 245	Satellite Imagery and Weather for the BESEX Area, 15 February through 10 March 1973	1974	87 p.	LaViolette, Paul E.	L		Contains satellite imagery for the Bering Sea experiment (BESEX) period. Images were received from the satellite at approximately 2300 hours GMT each day.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 245	Sound Velocity Structure of the Labrador Sea, Irminger Sea, and Baffin Bay During the NORLANT-72 Exercise	1974	95 p.	Fenner, Don F. Bucca, Paul J.	L	C000 461	During Jul-Sep 1972, 439 oceanographic observations were taken as part of the NORLANT-72 Exercise. One-third of these observations, mostly XBTs, were converted into sound velocity profiles using Wilson's equation and historical salinities.
TR 246	New Technique for Correcting Satellite Ephemeris Errors Indirectly Observed from Radar Altimetry	1981	64 p.	Cloutier, James R.	U	A102 875	After high-frequency, temporal, and environmental effects have been removed from satellite radar-altimetry measurements, ephemeris (and other low-frequency) errors still remain. The vertical component of these low-frequency errors can be indirectly observed in the form of geoid height differences occurring at the satellite's ground-track intersections. This report presents a new technique for correcting these errors.
TR 248	Beach Erosion Study Little Creek Naval Amphibious Base, Virginia	1974	69 p.	Das, Madan Mohan	U	A085 928	Describes information obtained on wave climatology, tidal currents, and the history of shoreline changes derived from aerial photographs taken in 1949, 1958, 1971, and 1974 of the Naval Base beaches at Little Creek, VA.
TR 250	Effect of Geomagnetic Micropulsations on MAD Systems	1975	17 p.	Brennan, James A. Smits, Kuno	U	A020 972	Summarizes relationship of geomagnetic disturbances observed between May 1969 and April 1972 to MAD used in submarine detection.
TR 256	Evaporation Duct Height Measurements in the Mid-Atlantic	1978	130 p.	Fairall, C. W. Davidson, K. L. Schacher, G. E. Houlihan, T. M.	L	A091 851	Describes results of atmospheric boundary layer measurements made in the Mid-Atlantic aboard USNS KANE during February and March of 1978.
TR 258	Circulation and Oceanographic Properties in the Somali Basin as Observed During the 1979 Southwest Monsoon	1981	76 p.	Beatty, William H. III Bruce, John G. Guthrie, Robert C.	U		Presents XBT, STD, sea surface temperatures, and salinity observations from 16 August - 5 September 1979 in an area of the Somali Current off the coast of Northeast Africa. Studies of satellite infrared photographs and XBT cross sections taken from tankers transiting the area during July and early August 1979 are also provided.
TR 259	Response Characteristics of the Neil Brown Instrument Systems, Inc. Mark III CTD to Step Changes in Temperature and Conductivity	1980	12 p.	Paige, Marshall A.	U	A102 543	Contains response characteristics of the NBIS, CTD temperature, and conductivity sensors documented in late 1978.
TR 260	Assessment of Tactical Sonobuoy Computer Programs for Environmental Software Systems	1981	35 p.	Fusillo, Lawrence J.	U	A104 415	Four tactical sonobuoy programs were investigated to identify parameters and techniques used in the prediction of sonobuoy sensor performance.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 261	Copper and Mercury Distributions in the Iceland-Faeroe Ridge Area, Fall 1980	1982	35 p.	Lorens, Robert B. Leone, Gerald M.	U	A129 739	A suite of water samples collected in the Iceland-Faeroe ridge area were analyzed for copper and mercury.
TR 262	Biofouling Studies in the Baltic Approaches	1981	14 p.	DePalma, John R.	U	A100 328	Presents a collection of biofouling organisms at 21 sampling stations during 1975-1977, located in a variety of depths and environments in the Danish Sound.
TR 266	Morphological Characteristics of North Atlantic and North Pacific Seamounts as Factors for Designing Effective Survey Detection Strategies	1981	29 p.	Bracey, Dewey R.	U	A103 379	Bathymetric and geophysical survey strategies are defined based on seamount morphological parameters for the detection of North Atlantic and North Pacific Seamounts.
TR 267	Functional Description of the Active Acoustical Sensor Range Prediction Model (ACTIVE ASRAP)	1981	11 p.	Lever, John A.	U	A104 416	Contains a detailed description of active ASRAP. Provides an explicit formulation of the mathematical techniques used in the model so the reader can examine the inherent assumptions and the applicability of the program.
TR 269	Digital Filtering of TIROS-N Mid-Infrared Satellite Data	1981	20 p.	Coulter, Robert E. Horton, Charles W.	U	A106 755	Considerable multiband noise, present in the mid-infrared band of TIROS-N images, obscures the location of oceanic fronts. A filtering scheme is described that, upon application to an image containing the Gulf Stream, reduced the noise to an extent where the surface front was clearly visible.
TR 270	Multivariate, Minimum-Curvature Splines for Randomly Spaced Data	1983	59 p.	Cloutier, James R.	U	A132 319	A collection of multivariate splines which are applicable to randomly spaced data is developed.
TR 271	Mixed Layer Depth Distributions from SVSTD Data	1981	106 p.	Molinelli, Eugene Doneilson, John Lilly, Linda	U		Mixed layer depths are defined in terms of four parameters: temperature, sound speed, density, and stability. These are broken down by the spring, summer, and fall seasons and by specific area in the Northern North Atlantic.
TR 272	Variations in the Thermal Structure and Wind Field Occurring in the Western Indian Ocean During the Monsoons	1981	171 p.	Bruce, John G.	U	A107 761	The changes in the temperature field in the Somali Basin and off the Arabian coast have been monitored from October 1975 through December 1979 by a time series of temperature sections obtained along the tanker sea lane offshore between 2 degrees South and 22 degrees North.
TR 275	Gulf Stream Surface Front Displacement by the Local Wind Stress: A Two-Dimensional Numerical Model	1983	28 p.	Horton, Charles W.	U		Presents modeling of three different storm paths showing displacement of the surface front of the Gulf Stream due to normally short but intense wind events such as hurricanes.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 276	Catenary Analysis for Mava Buoy Array Recovery	1982	19 p.	Mayoral, Carlos R.	U	A116 000	Description of a two-dimensional static catenary analysis technique developed for recovery of a Mava buoy array deployed at a depth of 4515 m.
TR 277	Evaluation of the Airborne Expendable Bathythermograph (AXBT, SSQ-36 BTS)	1982	80 p.	Gent, A. Edward	U		Using precision laboratory facilities, results, conclusions, and many AXBTS manufactured by the Hermes, Seppican and Magnavox Corporations, tests for temperature accuracy and time response are presented.
TR 278	Surface Recovery Technique for Deep Moored Vertical Arrays	1981	35 p.	Paige, Marshall A. Heuser, Peter J. Mayoral, Carlos R. Lindquist, Lee A. Selleck, John H.	U	A115 448	Describes a surface recovery technique that was developed for the retrieval of a vertically oriented array, anchored at a depth of 4550 meters.
TR 279	Description, Analysis, and Prediction of Sea-Floor Roughness Using Spectral Models	1985	218 p.	Fox, Christopher G.	U	A158 000	Discusses the methods that were developed which allows a valid statistical model of the variability of oceanic depths to be derived from existing digital bathymetric soundings.
TR 280	Prototype Bioluminescence Photometer	1982	29 p.	Geiger, Mark L.	U		History and performance of the NAVOCEANO bioluminescence photometer system is documented. The system is a vertically lowered device that records flashes of light produced when small bioluminescent marine organisms are pumped into a turbulent flow regime chamber where they are viewed by a photomultiplier tube.
TR 281	Use of Gallium Triple Point as High Temperature Reference	1982	4 p.	Gent, A. Edward Guess, Andrew	U	A115 237	Description of the evaluation of a triple point of Gallium cell for use as a primary standard in checking the accuracy of laboratory platinum resistance thermometers.
TR 282	SHARPS Model and On-Scene Acoustic Prediction Systems	1982	22 p.	Banas, Paul J.	L		A historical perspective of the development and implementation of the SHARPS Model for generating sonar range predictions is given, with a discussion of specific impacts on on-scene prediction systems.
TR 283	Geophysics and Tectonic Development of the Caroline Basin	1983	75 p.	Bracey, Dewey R.	U	A131 314	Contradictory hypotheses on the origin of the Caroline Basin suggested that an attempt be made to arrive at a reasonable synthesis of basin origin. This report attempts such a synthesis.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 284	Stability-Mixed-Layer Depths from AXBTS in the Northeast Atlantic-Norwegian Sea Region, April 1979 - July 1981	1986	24 p.	Wahl, Robert J.	L	B110 372L	Spatial and temporal variations of the stability-mixed-layer depth (SMLD) are described for the eastern North Atlantic Ocean, Norwegian Sea, Norwegian Current, and Iceland Sea, based on 3476 AXBT temperature measurements collected from April 1979 - July 1981 during eight aircraft surveys.
TR 285	Aeromagnetic Detection and Definition of Seamounts	1982	23 p.	Bracey, Dewey R.	U	A117 153	Using observed anomaly characteristics and relationship between the MAD electronic filter and seamount peak depths, an aeromagnetic seamount location and definition strategy is developed. Also discussed are limitations, recommended refinement, and future development of the method.
TR 287	Variability in the Mixed Layer Depth Near the Polar Front	1982	21 p.	Teague, William J. von Zweck, Ortwin H.	U	A117 154	The depths of the surface mixed layer are estimated for the fall season in the Norwegian Sea and Iceland-Faeroe Gap areas using definitions of mixed layer depth based on temperature and Brunt-Vaisala frequency.
TR 289	Variability in the Mixed Layer Depth Near the Iceland-Faeroe Polar Front During Spring 1981	1982	21 p.	Teague, William J. von Zweck, Ortwin H.	U		Surface mixed layer depths are computed for the spring season in the Norwegian Sea and the Iceland-Faeroe Gap areas using definitions of mixed layer depth based on Brunt-Vaisala frequency and on temperature.
TR 290	Determination of Stability from Temperature Profiles	1982	34 p.	Wahl, Robert J.	U	A129 567	Comparison of vertical profiles of Brunt-Vaisala (BV) frequency derived from measured temperature and constructed salinity data to BV frequency profiles calculated from C&D data.
TR 291	On Locating Satellite Groundtrack Intersections	1983	12 p.	Cloutier, James R.	L	B077 638	Presentation of simple equations for determining the longitudes of a satellite's groundtrack intersection.
TR 294	CTD Aliasing Investigation	1985	155 p.	Burdette, Ernest L.	U		Describes an investigation which evaluates the effect of aliasing on CTD data acquired at the standard sampling rate of 15.63 Hz.
TR 295	Subsurface Temperature Structure as Inferred from Sea-Surface Topography - A Possible Application of Satellite Altimetry	1986	52 p.	deWitt, Peter Webb	L	B109 921L	Describes results obtained from monthly regression relationships between surface dynamic height (0 dbar/1000 dbar) and the subsurface temperature structure calculated using available hydrographic data for the Gulf Stream and Kuroshio regions.
TR 296	New Method of Magnetic Basement-Depth Determination	1986	21 p.	Bracey, Dewey R. Shiel, Donald L. Weaver, John E.	U	A179 244	Describes an algorithm that was empirically developed, using band-pass-filtered, low-level aeromagnetic data, to relate magnetic anomaly half-wavelengths to magnetic basement depths.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 298	Modal Decomposition of the Monthly Gulf Stream/Kuroshio Temperature Fields	1987	40 p.	deWitt, P. W.	L	B118 349L	Monthly statistical models relating surface dynamic height (0 dbar/1000 dbar) and the subsurface temperature structure are described in terms of empirical orthogonal functions for both the Gulf Stream and Kuroshio areas.
TR 300	Seismic Reflection Profiles - Somali Basin, USNS WILKES, 1977-1979	1989	63 p.	Vestal, William J. Searcy, William P., III	U	A226 050	Discusses photographic reproductions of reduced-scale analogs as a guide to seismic data taken in the Somali Basin during the period 1977-79.
TR 304	The Joint US/UK 1990 Epoch World Magnetic Model	1991	217 p.	Quinn, John M. Coleman, Rachel J. Peck, Michael R. Lauber, Stephen E.	U	A245-860	A detailed summary of the data used, analyses performed, modeling techniques employed, and results obtained in the course of the 1990 Epoch World Magnetic Modeling effort is given. Use and limitations of the GEOMAG algorithm are presented also.
TR 306	Characterization of the Bottom Sediment Velocity-Depth Relationship for the Somali Basin and the Arabian Sea	1992	144 p.	LeTourneau, Nelson	U	A255-207	In the studying and modeling of sound propagation of the ocean bottom, one of the most important parameters is the velocity of sound versus depth in the bottom. To provide this parameter in the Somali Basin and the Arabian Sea, each area was sampled with velocity-depth measurements by the wide-angle bottom reflection method. Sediment surface sound velocity and bottom water sound velocity were collected as supporting data.
TR 308	A Unified Approach to Geopotential Field Modelling	1993	119 p.	Quinn, John M. Shiel, Donald L.	U	A283-453	It is shown that when both vector and gradient tensor components of a potential field are simultaneously available, inverse problems, such as determining the depth to the oceanic magnetic basement, can be split into a purely "geometric" problem, which seeks to determine the dimension and position parameters of one or more prisms and a purely "geophysical" problem, which seeks to determine the physical properties (i.e., the magnetization, polarization, density, etc.) of the prism. The geometrical problem is nonlinear and must be solved iteratively, using standard stochastic or least-squares inversion techniques, while the geophysical problem is linear and may be solved by direct inversion once the geometric parameters have been established.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 309	Magnetic Field Modeling of the Northern Juan de Fuca and Explorer Plates	1993	86 p.	Quinn, John M. Shiel, Donald L.	U	A283-507	A detailed low-level (500-ft) vector-aeromagnetic survey of the northern Juan de Fuca and Explorer plates, from 47 degrees N to 51 degrees N and from 124 degrees W to 130 degrees W, was conducted by the U.S. Navy's Project MAGNET aircraft in July 1981. The measured vector component data from this survey were used to create a 65,536 coefficient rectangular-harmonic, crystal, magnetic potential-field model for the region. This model, in turn, was used to generate self-consistent, uniformly spaced vector and gradient field grids, which, via inverse modeling, were used to estimate magnetic-source-depths and relative magnetizations for the entire survey area at approximately a 1.5-nmi resolution.
TR 311	Initial Analysis and Modeling Results from the Polar Orbiting Geomagnetic Survey (POGS) Satellite	1993	66 p.	Quinn, John M. Shiel, Donald L. Acuna, Mario H. Scheifele, John	U		The spatial and temporal character of fully calibrated geomagnetic data collected on selected orbits of the Polar Orbiting Geomagnetic Survey (POGS) satellite mission during the first 6 months of 1991 is analyzed with respect to a preliminary, degree 12 spherical-harmonic magnetic field model derived from selected POGS data collected during January and February 1991.
TR 313	Navy Combatant Hydrographic Data Collection System (HDSC) Testbed Aboard USS STEPHEN W GROVES (FFG 29) 15 August 1997 - 11 October 1997	1998	27 p.	Fisher, Craig	L	B194-176	The Navy Combatant Hydrographic Data Collection System (HDSC) and its purpose and history are discussed. The installation, operation, data collection, data processing, and data quality of the HDSC are presented.
TR 314	The Joint US/UK 1995 Epoch World Magnetic Model	1995	376 p.	Quinn, John M. Coleman, Rachel J. Shiel, Donald L. Nigro, John M.	U	A296-875	This report contains a detailed summary of the data used, analyses performed, modeling techniques employed, and results obtained during the course of the 1995 Epoch World Magnetic Modeling effort. This report also contains the GEOMAG algorithm and describes its uses and limitations. Charts derived from the WMM-95 model and the GEOMAG algorithm for both the Main geomagnetic field components and their Secular Variations are presented on Mercator and polar stereographic projections. Additionally, the numerical values of the Main geomagnetic field components and their Secular Variations are tabulated on a 5-degree worldwide grid.

RPT NO.	TITLE	DATE	PAGES	AUTHOR	DIST.	AD NO.	DESCRIPTION
TR 315	Mine Warfare Campaign Plan Route Survey Environmental Data Bases Concept of Operations	1999	61 p.	L			The Mine Warfare (MIW) Campaign Plan is an initiative directed by the CNO to bring MIW out of the past, into the present, and to be prepared for the future. This updated Concept of Operations describes how COMINEWARCOM and NAVOCEANO have coordinated assets to provide an enhanced environmental capability to warfighters of COMINEWARCOM.
TR 316	Mine Warfare Campaign Plan Route Survey Environmental Data Bases Interface Control Document	1997	76 p.	L			The Mine Warfare (MIW) Campaign Plan is an initiative directed by the CNO to bring MIW out of the past, into the present, and to be prepared for the future. In response, COMINEWARCOM and NAVOCEANO are coordinating their assets to provide an enhanced environmental capability to the warfighters of the MIW Command. Creation of the MIW Route Survey Environmental Data Bases is a cooperative, inter-agency effort with numerous computing assets employed by each agency. This Interface Control Document defines the existing interface requirements between the computing assets of COMINEWARCOM and NAVOCEANO and also specifies requirements for planned capabilities.